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SERIES A, Nº 171 Santiago, CHILE October, 1985

CENTRO LATINOAMERICANO DE DEMOGRAFIA
CELADE

Edificio Naciones Unidas
Avenida Dag Hammarskjöld
Casilla 91, Santiago, CHILE
Apartado Postal 5249
San José, COSTA RICA

LC/DEM/G.35
October, 1985

The views and opinions expressed herein are those of the author, who worked during six months as Associate Expert in the Joint CELADE/ECLAC Unit, Port of Spain, financed by the Exchange and Co-operation Porgramme CELADE/Canada. They do not necessarily reflect the views of the Latin American Demographic Centre (CELADE).

The printing of this volume was made possible by a publications grant from the Exchange and Cooperation Programme CELADE/Canada.

CENTRO LATINOAMERICANO DE DEMOGRAFIA (CELADE)
Series A, Nº 171
Santiago, CHILE. October, 1985

TABLE OF CONTENTS

Acknowledgements

The research and the writing of this paper were undertaken during the period January - July 1984 while on Sabbatical Leave from the University of Western Ontario, and on assignment with the Latin American Demographic Centre under the Canada/CELADE 11 Project 1982-87. During the period I was based at the Economic Commission for Latin America Sub-Regional Office in Port of Spain, Trinidad. Revision was undertaken in 1985 at the University of Western Ontario.

It was a real pleasure to have been at ECLA Port of Spain and I would like to thank all members of the Staff for their part in making my stay an enjoyable and interesting one and for providing me with the facilities without which this paper could not have been written. In particular I would like to thank Basia Zaba-Beckles for the very tremendous role she played in gaining access for me to a significant amount of the data utilized.

The help of Jack Harewood of the Institute for Social and Economic Research of the University of the West Indies is gratefully acknowledged.

I would also like to thank the following colleagues and friends for their very thoughtful and helpful comments on the draft: Basia Zaba-Beckles, Jean Casimir, Jack Harewood, Jean-Pierre Guengant, Tom Burch, T.R. Balakrishnan and Carl Grindstaff. Their reviews have improved this paper tremendously.

Even though all the above individuals and organizations help in making this research possible, the views expressed, the conclusions drawn and the errors made are those of the author.

MORTALITY, FERTILITY AND FAMILY PLANNING:

DOMINICA AND ST. LUCIA.

1.1 INTRODUCTION

This paper examines mortality, fertility and family planning in the two Caribbean societies of Dominica and St. Lucia. These three demographic aspects will be presented, where possible, in a comparative framework, and with a historical perspective covering the period 1950 to the early 1980's. Where possible, the socio-economic correlates of these three demographic variables will be developed. Micro and macro data from a variety of sources are used in order to present as complete a picture as possible. The aim is to find out as much as possible about the demography of these little-studied Windward islands, to see what can be done with the existing data, and to bring together data for an understanding of the demographic process with a view of including demographic considerations in the understanding of, and planning for, socioeconomic development.

The study of mortality and fertility along with family planning to the exclusion of international migration might seem odd to the reader. Migration is the subject of increasing interest in these Caribbean societies. However the available data do not allow us to gain an understanding or even a good description of the dynamics of this very important demographic variable. Even the number of migrants is not validly or reliably reported. The disparities between census counts and intercensal population estimates are generally blamed on the poor migration figures used in the estimates. Migration is a special problem requiring special studies and as such is beyond the scope of this paper. Moreover, it was excluded by CELADE when the assignment of this task was made.

We therefore concentrate our efforts on the other two determinants of the rate of growth, size, and composition of the population. Especially in the case of

fertility, wherever possible, we will study it with a view to identifying its correlates. Family Planning is seen as a response to the outcome of these two demographic factors and an instrument of government policies directed at socio-economic development.

Fertility in these developing countries is one of the primary determinants of the changing rate of growth, size and composition of the population. Fertility is on the decline but is still relatively high. It can be responsive to interventions aimed at either decreasing or increasing it. It is related to a generally known set of socio-economic variables acting through a set of eleven intermediate variables. An understanding of the inter-relationships between fertility and these variables is fundamental if control of fertility is seen as a possible policy option. This paper reports on what is currently possible in an examination of fertility within the above context and for Dominica and St. Lucia. The undertaking is severely limited by the available data, the lack of computing facilities, and time constraints.

Family Planning activities and the use of contraceptives are becoming widespread in the Caribbean societies. Governments and the international organizations recognize that too rapid a rate of population growth could jeopardize efforts aimed at improvement in the quality of life. Of the three components of population growth, the most amenable to the action of these governments in the present situation is fertility and a direct way of influencing it is by increasing the use of contraceptives. Contraceptive use can be promoted through family planning programmes. In this paper we look at the use of contraceptives at the micro level, using survey data on samples of women in the childbearing ages. Our analysis is severely restricted by the available data.

Mortality, a second component of population growth, is studied here in two parts, general mortality and infant mortality. Rates are presented at the macro level only, and the data do not allow us to examine the socio-economic correlates of either type of mortality. Declining infant mortality resulting in larger families (assuming no contraception) is generally believed to be a motivating force in the adoption and use of contraceptives and therefore an indirect factor in subsequent fertility declines. Infant and general mortality declines are expected to precede

fertility decline, giving rise to rapid population growth with manifestations at both the family level and the societal level. This phenomenon elicits individual and societal responses in the form of family planning use and programmes directed at facilitating that use.

In Dominica and St. Lucia, mortality, fertility, and family planning activities have been undergoing change. Mortality has declined and is now at relatively low levels. Infant mortality has been declining and is likely to continue its downward trend at a decreasing pace except in Dominica where if the figures are anywhere near the truth it is already very low. Infant mortality declines are manifested in the increasing life expectancy at birth which has been on the increase. Mortality changes in the near future will be small and will have little effect on the size, rate of growth, and composition of the population. However, governments will continue their efforts to improve the health of the population and will continue to pursue policies which will directly or indirectly influence mortality levels.

Government policies in Dominica and St. Lucia have both directly and indirectly led to significant declines in fertility in recent years. Direct support, in one way or another, for responsible parenthood has through increasing contraceptive use made an impact on fertility. Socio-economic development projects manifesting themselves in improvements in the quality of life have indirectly contributed to the reductions in fertility. The direct impact is studied through family planning as a factor in fertility declines and the indirect through the socio-economic correlates of fertility. In this paper we use those socio-demographic factors available to us, namely education, union status, main economic activity and race.

Fertility, in spite of significant declines, is still higher than is generally associated with the third stage of the demographic transition, and substantially above replacement level or those levels currently existing in the developed societies.

Public concern with high fertility and its implications for family size and societal population parameters have led to programmes of voluntary organizations and governments aimed at motivating responsible parenthood. Increasing contraceptive use is seen as an effective means of achieving smaller families and reduced societal

fertility levels. There are differential rates of response to the adoption and use of contraception among subgroups within the population. Contraceptive use and knowledge are examined with respect to a few of the possible subgroups. The choice is dictated by the availability of data.

Migration is not considered for reasons related to concerns other than its importance in past, present and future population changes. In the past it was a very important demographic component. At present it is still important but perhaps a little less so. In the future its importance will depend on factors external to those two societies as well as on internal factors. Even the closing of doors to potential destinations is not enough to completely inhibit emigration if the push at the origin is sufficiently strong. Strong political and economic push factors have been shown to result in emigration of desperation (boat people of southeast Asia and Haiti).

Dominica and St. Lucia are chosen because they are both members of the Windward Islands group of countries. They are dissimilar in population size and land area. They are dissimilar on a number of demographic dimensions, but they are somewhat alike in terms of geography, politics, and economy. Socio-culturally there are some differences and some similarities between them. There are fewer gaps in the data on St. Lucia than those for Dominica. Hopefully these data deficiencies have not unduly restricted our comparisons and forced us into too selective a presentation. It is hoped also that the differences and similarities will serve to present an interesting study and one that is possible for the other Caribbean countries, on which so few demographic studies have been done and so little is known.

1.2 DATA AND MEASURES

The data on which the paper is based have been obtained from a variety of sources. Some of the data come from vital statistics published in the statistical abstracts of the two governments. Some are derived from other government publications. The 1960, 1970 and 1980/1 population censuses provide a very significant amount of the data on fertility. Secondary sources supplement these government statistics. Among these secondary sources are the United Nations publications and a Contraceptive Prevalence Survey for each of the two islands.

The vital registration of births and deaths is generally believed to be near complete and of high quality in these two English-speaking Caribbean countries. However, this should not go unquestioned. Perhaps it is time that an evaluation of the reliability and validity of these data sources be undertaken. The intercensal estimates based on vital statistics (births, deaths) and net migration estimates, and the 1970 census figures, when compared to the 1980 census population figures for St. Lucia show an over-estimate of 4.4 percent for 1980; in the case of Dominica it is 10.8 percent for the census year 1981. The St. Lucia overestimate is acceptable but the Dominican one is quite large. How reasonable is it to blame these overestimates almost exclusively on faulty net migration figures? All possible contributing sources to the discrepancies, including the Censuses, should be rigorously evaluated. However, until this is done it is more defensible to place greater confidence in the Census figures than on the estimates. This means that the reliability and validity of the mortality, fertility and migration statistics are to some extent being questioned.

World Fertility Survey data on Jamaica, Guyana, and Trinidad and Tobago have also led to a questioning of the completeness of the registration systems of these English-speaking Caribbean nations, especially with respect to fertility and infant mortality. The Dominican and St. Lucian situations are not isolated cases but are in fact similar to the countries of the region.

The data presented are restricted to those figures which were more or less available for both Dominica and St. Lucia. The data on St. Lucia are more extensive than those on Dominica and they are also more up to date for the former compared to the latter. In many cases statistics for the same variable and for the same time period would differ among the sources. In these instances the choice was generally in favour of the statistics published by the government of the country.

A variety of rates and measures is used. The choice is generally made taking into consideration convention, type of data, and the distribution of the variable. We have used birth rates, death rates, fertility and mortality rates, means, and percentage distributions, among others. Because of the greater availability of the data on fertility its treatment is much more extensive and a greater number of

measures is used in presenting its many components. The 1970 and 1980/1 censuses provided the opportunity to examine fertility more extensively than was possible for mortality. Some aspects of childlessness, high parity fertility and teenage fertility are presented as parts of the treatment of fertility.

1.3 DOMINICA AND ST. LUCIA: THE COUNTRIES

Dominica and St. Lucia are both English-speaking independent Caribbean nations. They belong to the Windward group of Caribbean islands. They are both members of the British Commonwealth, the Organization of Eastern Caribbean States, Caribbean Development Cooperation Committee, and the Caribbean Community (CARICOM).

They are tropical islands with lush green vegetation. Basically agricultural societies, some efforts are now being exerted to diversity their economies. Banana is their main export product. They also export coconuts and vegetables. St. Lucia's economy is more diversified than that of Dominica. It has a very significant tourism industry while Dominica's is quite small. The manufacturing sector though small in both countries is much larger in St. Lucia than Dominica.

Services and agriculture are the main areas of employment for the people. Unemployment runs between 15 and 30 percent and there is much underemployment. The unemployment levels in these countries would be likely higher had it not been for the emigration of large numbers of nationals.

Dominica and St. Lucia share with the Caribbean and Latin American regions the severe debt problems of the early 1980's. The annual trade deficits are relatively very large. Among the Caribbean nations they are classified as less developed countries (LDC's). Per capita gross national product (per capita GNP) in 1982 was given as $710 (U.S.) for Dominica and $720 (U.S.) for St. Lucia (Population Reference Bureau, 1984 World Population Data Sheet).

Dominica is larger in land area (750 KM^2) than St. Lucia (616 KM^2). St. Lucia with the larger population has the greater density with 188 persons per square kilometre in 1980 compared with Dominica's 100 in 1981. St. Lucia has a greater proportion of its land area considered as arable. It therefore has a lower population density per kilometre square of arable land: 342 for Dominica in 1981

compared to St. Lucia's 297 in 1980. Both islands are mountainous but Dominica more so than St. Lucia.

Socially and culturally the two societies are comparable and they share a somewhat similar history. Originally colonised by France they became English colonies growing sugar cane which eventually (post World War II) was replaced by bananas. Dominica has a small indigenous population of Carib Indians. St. Lucia has a small East Indian population. The majority of their populations is black, and Roman Catholic in religion. There is a small white population. The number of people classified as racially mixed has been declining at each census since 1960 as black consciousness is awakened and people are more willing to be classified as blacks. This common history led to similar social structures. The middle class is gaining in numerical importance as expanding educational opportunities and growth in the economies present greater social mobility possibilities.

The mountainous nature of these islands has restricted agricultural expansions and spatial distribution of the populations. It has also impeded road construction, transport and communication. Since they are volcanic in nature they are not richly endowed with white sand beaches and coral reefs which are contributing factors to the popularity of Antigua and Barbados as resort areas. The populations of Dominica and St. Lucia are small and currently the labour force is not technically trained and therefore is not an incentive for the establishment of light industries. There are no known mineral resources. Forestry and fishing are not well developed. Agriculture's main emphasis is cash crops for external trade. These cash crops, tourism and small amounts of manufactured goods are the countries' earners of foreign exchange. Too rapid a growth of the population has been retarded by migration losses. With the current barriers at traditional destinations to emigration and continued gradual declines in mortality, these countries are fortunate in that fertility has been declining. But these declines are slowing down gradually, and the rates of growth of the population are still relatively high. It is important that the implications of the present and future population parameters be kept in mind as the problems facing the economy are examined and as plans are made and executed for socio-economic development.

2.1 DEMOGRAPHIC BACKGROUND

A brief demographic picture of Dominica and St. Lucia is presented in order to set the stage for the examination of fertility, family planning and mortality. Because these aspects of the population are dealt with later they are not presented in this section. This section is mainly focused on the population size and its rate of growth.

2.2 POPULATION SIZE

Dominica and St. Lucia are numerically small societies and they are two of the rapidly increasing numbers of "micro" states. In Table 1 their populations are given over the period 1950 to 1983. The adjusted populations shown resulted from calculations based on the assumption that census figures are more likely closer to the actual populations than are unsophisticated intercensal estimates. The unadjusted figures are generally higher than the adjusted ones. The adjusted figures do not adequately deal with unusual fluctuations in the components of population growth. On the other hand they do not admit large changes between two consecutive years.

Using the adjusted figures, Dominica's total population increased between 1950 and 1983 by over 25,000 and that of St. Lucia by over 48,000. St. Lucia's gain in absolute numbers is larger relative to the population sizes. In fact St. Lucia's gain in population over the period 1950-1983 is about 65 percent while that of Dominica is about 50 percent. The figures are lower using the unadjusted figures but the relative differences are substantially the same.

St. Lucia passed the 100,000 mark in total population in 1969 at the same time that Dominica was crossing the 70,000 figure. By 1983 St. Lucia is approaching 125,000 inhabitants and Dominica has just passed the 75,000 point. St. Lucia is pulling away from Dominica. Its population size is gaining in numbers at a relatively faster pace. At a later stage we shall investigate the contributing factors individually and in the final section we shall bring them together for a discussion of their relative contributions.

Table 1

Dominica and Saint Lucia
Total Population 1950-1983

Date	DOMINICA		SAINT LUCIA	
	Total Population (various sources)	Adjusted[1] Total Population	Total Population (various sources)	Adjusted[1] Total Population
1950	51,850	50,986	79,000	74,474
1951	52,860	51,863	81,000	75,606
1952	53,710	52,755	82,000	76,755
1953	54,820	53,662	84,000	77,923
1954	56,140	54,585	85,000	79,106
1955	57,410	55,524	87,000	80,309
1956	58,320	56,479	89,000	81,529
1957	59,180	57,451	90,000	82,769
1958	59,750	58,439	92,028	84,027
1959	59,950	59,444	93,755	85,304
1960	59,916*	59,916*	86,108*	86,108*
1961	60,140	60,976	94,809	87,589
1962	61,650	62,056	96,841	89,095
1963	63,470	63,154	99,084	90,628
1964	65,030	64,272	101,959	92,187
1965	66,740	65,410	106,663	93,772
1966	68,500	66,567	110,142	95,385
1967	70,190	67,746	99,000	97,026
1968	72,060	68,945	100,000	98,695
1969	70,165	70,165	101,000	100,392
1970	70,513*	70,513*	100,893*	100,893*
1971	72,566	70,908	104,000	102,376
1972	74,470	71,305	106,000	103,881
1973	76,144	71,704	108,000	105,408
1974	77,346	72,106	110,000	106,957
1975	78,669	72,510	111,800	108,530
1976	79,707	72,916	113,600	110,125
1977	80,675	73,324	115,500	111,744
1978	81,694	73,735	117,500	113,387
1979	82,000	74,147	118,400	115,053
1980	82,590	74,563	115,689*	115,689*
1981	74,851*	74,851*	122,200	118,002
1982	75,274	75,600[2]	124,001	120,600
1983	76,356[2]	76,356[2]	126,360	123,010

*Census Figures
[1]Intercensal Adjustments, 1946-1960, 1960-1970, 1980/1
[2]Estimated Figures

Three population projections are given in Table 2. The World Bank figures are higher than the Population Reference Bureau (PRB) ones for Dominica, in part due to the higher starting figure for 1980. The World Bank projections for St. Lucia are very close to those of the PRB (Column (4)) up to 2010 and then they become intermediate to the two PRB figures for 2020 and 2030. By the year 2000, Dominica is projected to have between 86,000 and 107,000 people and St. Lucia between 151,000 and 174,000.

TABLE 2

Dominica and Saint Lucia:
Total Population 1980 and Projected to 2030

	DOMINICA			SAINT LUCIA		
Year	(1)	(2)	(3)	(4)	(5)	(6)
1980	72,311	72,311	78,000	120,300	120,300	120,000
1990	78,899	82,521	92,000	140,016	136,633	139,000
2000	86,387	91,710	107,000	173,584	151,038	174,000
2010	91,165	100,129	123,000	213,037	164,491	212,000
2020	94,485	104,792	136,000	267,493	171,906	244,000
2030	96,767	110,980	148,000	341,627	175,540	278,000

Sources:

(1) and (2): PRB Occasional Series: The Caribbean Dominica: Yesterday, Today and Tomorrow. Population Reference Bureau, Washington D.C., 1984.

(4) and (5): PRB Occasional Series: The Caribbean Saint Lucia: Yesterday, Today and Tomorrow. Population Reference Bureau, Washington D.C., 1984.

(3) and (6): World Population Projections 1984 by My T. Vu. The World Bank, Washington D.C., 1984.

Assumptions:

(1): TFR of 3.4 is maintained for the next 50 years; net emigration of 800.

(2): TFR of 2.6 by 1990 and constant after that period; net emigration of 400.

(3): TFR of 3.0; Growth Rate 1.58; NRR 1.430 (1980-85), and 1.0 by 2000.

(4): TFR of 4.5 is maintained for the next 50 years; net emigration of 1500.

(5): TFR of 2.1 by 1990; net emigration of 750.

(6): TFR of 4.4; Growth Rate 1.19; NRR 2.034 (1980-85) and 1.0 by 2015; Net Migration Rate = -12.1 between 1980 and 1985 and declining to 0.0 between 1995 and 2000.

TABLE 3

Dominica and Saint Lucia:
Rates of Natural Increase 1950-1983

Year	RATES OF NATURAL INCREASE (% p.a.) DOMINICA 2	DOMINICA 3	SAINT LUCIA 2	SAINT LUCIA 3
1950-54[1]	2.20		2.13	
1955-59[1]	2.93		2.91	
1960	3.20		3.15	
1961	3.10		2.95	
1962	3.14		2.89	
1963	2.69		3.07	
1964	3.07		3.48	
1965	3.38		3.70	
1966	3.18		3.75	
1967	3.08		3.45	
1968	2.86		2.83	
1969	2.57		3.38	
1970	2.80	2.48	3.55	3.55
1971	2.80	2.83	2.32	2.69
1972	2.78	2.87	3.03	3.09
1973	2.38	2.50	2.97	3.05
1974	2.02	2.15	2.83	2.87
1975	1.67	1.79	2.73	2.82
1976	1.55	1.68	2.67	2.76
1977	1.53	1.64	2.86	2.96
1978	1.60	1.79	2.68	2.77
1979	1.44	1.49	2.43	2.50
1980	1.68	1.92	2.26	2.36
1981	1.79	1.78	2.43	2.52
1982	1.78	1.77	2.60	2.67
1983	1.70	1.70	2.48	2.54

1 Average Annual rate of increase.
2 Unadjusted rate.
3 Rates based on the adjusted Crude Birth and Crude Death Rates.

Source: Statistical Digests of Saint Lucia and Dominica.

These are not large populations, nor are the growth rates very high. However, in the context of these two societies with their low resource bases, they represent major challenges for future socio-economic development.

2.3 POPULATION INCREASE

The rates of natural increase are shown in Table 3. The rates between 1970 and 1983 have been adjusted in line with the earlier adjusted total population figures. The adjusted rates are somewhat higher than the ones obtained directly from the official sources. The rates of natural increase result from the differences between the crude birth and crude death rates expressed as a percent. Their reliability and validity depend on the accuracy of these two rates. The rate of natural increase ignores migration and thus differs from the overall rate of growth.

Up to 1962 the rates of natural increase for Dominica were higher than those of St. Lucia. From 1962 to 1982, with only two exceptions, the rates are higher for St. Lucia than Dominica. This is not expected since knowledge of the socio-economic conditions of the two countries would have led one to expect the rates for Dominica to continue to be higher than those of St. Lucia. St. Lucia has had for some time a higher per capita GDP than Dominica. St. Lucia's population is better educated. Its economy is less dependent on agriculture than that of Dominica and its urban concentration is greater also. Some possible reasons for this higher level of natural increase will be advanced as the analysis of this paper develops.

The levels of natural increase were high in the past and even though they have declined they are still relatively high. St. Lucia's rates have remained high. At its current rate of natural increase and with zero net migration, St. Lucia's population would double in about 30 years. Dominica's lower rate of natural increase at present would see a doubling of its population in 40 years. These are short doubling times and imply great demographic pressures on these two LDC's. However, up to the present time emigration has played a significant role in keeping the growth rates below the rates of natural increase.

Annual population growth rates are shown in Table 4. These rates take into consideration net migration. They are in less detail than the rates of natural increase. Table 4 shows average annual growth rates over five-year time periods. The rates are higher for Dominica than St. Lucia over the first ten years, approximately the same for the next 10 years, and higher for St. Lucia for the next 10 years. Our knowledge of the economic situation of the two societies does not lead us to conclude that Dominica was behind socio-economically but has now surpassed St. Lucia. The general assessment is that St. Lucia was and still is ahead of Dominica in socio-economic development. The answer has to lie somewhere else than in reversal in average level of quality of life. For the rate of growth differences the two demographic contributing factors are the rate of natural increase and net migration.

TABLE 4

Dominica and Saint Lucia:
Annual Rates of Growth of the Population (Percent)

Year	DOMINICA	SAINT LUCIA
1950-55	2.0	1.6
1955-60	1.2	0.4
1960-65	1.3	1.4
1965-70	1.9	1.8
1970-75	1.4	1.9
1975-79	0.7	1.6

Source: Bureau of Census, U.S. Department of Commerce World Population 1979, Washington D.C. 1980.

The rate of growth in Dominica has slowed down very considerably and this has happened also in St. Lucia but to a much smaller extent. Net migration losses are major contributing factors in both countries and so too is fertility decline, especially in Dominica. If emigration is severely curtailed and/or immigration (likely return migration mainly) increases then the rate of growth could turn upward and approach the relatively high rates of natural increase.

2.4 AGE COMPOSITION

The age composition of a population is a function of the components of the growth of the population. The rates of natural increase and of growth seen in the earlier section will manifest themselves in the age composition. The age composition in turn is also a determinant of the population growth components. The distribution of the population among the age groups is necessary for planning purposes. Knowing the age composition is to know what is, will be and is required in education, health and employment among other areas. The age composition should be considered in socio-economic planning.

In Table 5 it is seen that in 1960 and 1970 St. Lucia and Dominica had average ages that were quite close to each other. In 1981 the Dominican average age is higher than St. Lucia's 1980 figure. This is an outcome of Dominica's lower fertility and probably higher, emigration rates. The average ages of both populations decreased between 1960 and 1970 likely as a result of increases in fertility and emigration. The average age then increased between 1970 and 1980/1 as fertility fell and emigration probably declined.

TABLE 5
Dominica and Saint Lucia:
Average Age of the Populations

Average age of the Population	DOMINICA	SAINT LUCIA
1960	23.9	23.4
1970	22.9	22.4
1980/1	25.2	23.5

More detailed age distributors are shown in Table 6 for the two most recent census years. The distribution for the female population is shown (along with that of the total population) mainly because of its implication for the analysis of fertility which will follow.

TABLE 6

Dominica and Saint Lucia:
Age Distribution (Percentage)

Present Age	DOMINICA						SAINT LUCIA					
	Total Population			Female Population			Total Population			Female Population		
	1960	1970	1981	1960	1970	1981	1960	1970	1980	1960	1970	1980
0-4	18.7	18.0	11.1	17.3	17.2	10.8	17.9	18.4	14.1	16.8	17.2	13.5
5-9	14.4	17.0	13.8	13.6	16.1	13.1	14.1	17.5	14.9	13.3	16.3	14.3
10-14	11.6	14.1	15.1	10.8	13.0	14.9	12.3	13.7	14.6	11.3	13.1	13.9
15-19	8.9	9.8	12.8	8.7	9.7	12.5	9.8	9.6	12.3	9.5	9.4	11.9
20-24	7.5	7.0	9.5	7.8	7.1	8.9	7.7	6.8	8.8	7.9	7.3	9.0
25-29	5.9	4.5	6.4	6.1	4.7	5.9	6.1	4.9	6.2	6.5	5.2	6.3
30-34	4.8	3.7	4.8	5.0	4.1	4.8	5.2	3.9	4.9	5.5	4.2	5.1
35-39	4.6	3.8	3.8	4.8	4.2	3.8	5.2	3.9	3.9	5.5	4.3	4.0
40-44	4.5	3.6	3.3	4.7	3.7	3.6	4.5	3.8	3.4	4.6	4.2	3.5
45-49	4.2	3.5	3.4	4.2	3.7	3.5	4.1	3.8	3.1	4.0	3.9	3.3
50-54	3.9	3.5	3.2	4.2	3.7	3.5	3.5	3.2	3.0	3.6	3.2	3.2
55-59	3.0	3.0	2.8	3.3	3.2	3.0	2.5	2.8	2.6	2.6	2.8	2.7
60-64	2.6	2.6	2.9	2.8	2.7	3.2	2.4	2.4	2.6	2.8	2.6	2.7
65-69	1.8	2.2	2.5	2.1	2.5	2.6	1.6	1.8	2.0	1.9	1.9	2.1
70-74	1.5	1.5	2.0	1.8	1.7	2.4	1.3	1.3	1.4	1.6	1.6	1.6
75-79	1.0	0.9	1.3	1.2	1.1	1.6	0.7		1.0	0.9		1.2
80-84	0.6	0.7	0.7	0.8	0.8	1.0	0.6	2.2*	0.6	0.8	2.8*	0.8
85+	0.5	0.6	0.6	0.8	0.8	0.9	0.5		0.6	0.9		0.9

Sources: Censuses of Population 1970 and 1980/81.

*75+

The recent declines in fertility and infant mortality have manifested themselves in the age composition as seen in Table 6. The 1980/1 percentages in the first two age categories are lower than the percentages for 1960 and 1970. For age groups 10-34 the reverse is generally true. The more recent percentages are in general higher than the earlier ones. Between ages 35 and 59 the percentages are reversed again and for age groups 60 and older, they are reversed once more. The above pattern holds for St. Lucia and Dominica and for the total as well as the female population.

In general, the percentages for the female population are lower than those of the total population in the age groups under 20. With few exceptions, among age groups 20 and over the percentages for the female population are higher than those

of the total population for the same census year. This reflects the higher numbers of males at birth and also the higher mortality rates and emigration rates for males than for females.

The large percentages in the young age groups and the early childbearing ages show the potential for a high birth rate now and in the near future. However, if fertility continues to decline the percentages in the young age groups will decline further and the populations will age.

Children under ten years of age in 1981 in Dominica represent a smaller percentage of the population than in St. Lucia in 1980. This reflects the more recent lower fertility in Dominica compared to St. Lucia. In 1970 the situation was the same but the differences between Dominica and St. Lucia were smaller. The percentage of the population in the age groups 10-29 are higher for Dominica than St. Lucia in 1980/1, and with one exception the same in 1970, but the differences are smaller. Those age differences represent the effects of differential mortality, fertility and migration.

2.5 EMIGRATION

As was stated earlier, migration as a factor in population change is not included in this project. However, a few words are warranted as a part of the demographic picture which is being presented. Since post World War II, as indeed much earlier, these countries have had net migration losses. Emigration has held down the rates of population growth and the size of the population. It has also alleviated the unemployment situation; and remittances from the emigrants have made a contribution to the economies of the islands.

Emigrants from St. Lucia and Dominica have gone to other Caribbean countries, the United Kingdom, the United States of America and Canada in relatively sizeable numbers. Guengant (1984) estimated Dominica's net loss of migrants over the period 1950-1980 as 28,000 and that of St. Lucia as 50,000, amounting to about 55 and 58 percents of their respective natural increase over the time period. These estimates provide an indication of the magnitude of the emigration factor in the demographic processes in these two countries. Pohl (1976) gave estimates of the net migration losses for St. Lucia between 1946 and 1960 as 12,300 and Dominica's as 6,100. For

the next intercensal period 1960-1970 his estimates are 18,300 and 8,200 respectively. Therefore net migration loss is not insignificant. The intercensal period 1970-80/1 has seen continued loss of people through emigration but at a reduced rate. This reduction is likely due to restrictions on immigration imposed by the countries of destination as well as slowdown in their economies in the latter part of the 1970's and early 1980's.

Emigration even though curtailed has not been eliminated. When the push is sufficiently strong ways will be found to emigrate. Economic conditions in these micro states are providing a strong push impetus to migrate.

2.6 SPATIAL DISTRIBUTIONS

Physical features have to a large extent determine the population distribution in Dominica and St. Lucia. The significant population concentrations are situated along the coasts. The capital cities are both seaports. The small urban centres gain population from the rural areas, and hence their rates of growth are higher than those of the rural areas. St. Lucia is more urbanized than Dominica. The capital of St. Lucia (Castries) accounts for a much larger percentage of the population than does the capital of Dominica (Roseau), 38 percent in 1980 vs 28 percent in 1981, respectively. However, these figures may be underestimates since some suburbs of these two cities are likely to have been excluded from these calculations.

St. Lucia and Dominica are basically rural agricultural societies. If the drive for diversification of the economies away from agriculture succeeds then the spatial distribution of the population should undergo some changes in the likely direction of higher levels of urbanization. This will be accomplished through the expansion of the population centres located along the coasts of these two mountainous tropical islands.

3.1 MORTALITY

Dominica and St. Lucia have experienced, since at least 1950, very significant declines in infant mortality and general mortality. This mortality revolution is a common experience of the Caribbean countries. It is the result of general improvements in the quality of life. These societies have made significant socio-economic

gains and this improvement has manifested itself in areas which have implications for mortality. Some of these areas where improvements have been made and which are likely to depress mortality are: preventive and curative medicine, nutrition, public health, housing, education, and standard of living.

3.2 GENERAL MORTALITY

General mortality is measured in this paper by the crude death rate which is given in Table 7 for the years 1950-1983. In the intercensal years, the base for the calculation of these crude death rates is the estimated population. Where the estimated population is higher than the actual as we believe to be the case for Dominica and St. Lucia, then the reported crude death rates are underestimates. Using the 1970 and 1980/81 Censuses, new population estimates were derived for the intercensal period and a set of crude death rates were calculated with these as bases. They too are shown in Table 7. Since the population base is smaller the adjusted crude death rate is higher than the unadjusted.

The crude death rates for Dominica (with four exceptions) are higher than those of St. Lucia for the years 1950 to 1971 and they are lower for the years 1972 to 1982. This turn-around is a very interesting phenomenon and an unexpected one. One would expect the earlier trend of lower crude death rates for St. Lucia to persist up to the present time. The generally held view is that St. Lucia is more socio-economically advanced and therefore one would expect it to maintain its mortality advantage. The socio-economic data (Economic Activities in Caribbean Countries, U.N. - ECLA) do not show Dominica as enjoying a superior socio-economic situation. The demographic situation does not suggest a possible answer. The small differences in the age compositions, would seem insufficient to account for this reversal even though they play a part. A tenable conclusion is that the figures underlying these rates are more valid in the case of St. Lucia.

Dominica experienced an overall decline of 70 percent in its crude death rate from 1950 to 1982 compared to 59 percent in the case of St. Lucia. In both countries the most dramatic declines occurred in the decade 1950-59 followed by those of the 1960-69 decade. The declines from 1970 to 1982 are less dramatic since

by 1970 the crude death rate had reached already very low levels. The crude death rate of Dominica as shown in Table 7 is as low as it is likely to ever get. But it is likely an underestimate. In fact as fertility continues to decline and the population ages in the next two decades Dominica is expected to experience an upturn in its crude death rate. In the case of St. Lucia, the crude death rate is likely to fall perhaps a point lower in the near future, if the infant mortality rate continues its downward trend.

3.3 INFANT MORTALITY

Rates of infant mortality are also presented in Table 7. These are not adjusted (except for St. Lucia, 1975-81, revised based on a careful recount of the events) since in order to do so would require a study of the registration system which is the source of the data for the numerator and the denominator of the infant mortality rate. Recent World Fertility Survey data on Guyana, Trinidad and Tobago, and Jamaica, have cast doubt upon the completeness of their birth and death registration systems and it is reasonable to have similar doubts about any other system until they have been verified. This has to some extent been done recently for St. Lucia resulting in revised higher rates for 1975-81. In the case of infant mortality the effect of under-registration can be most acute since the numbers in the numerators are small. When a child is born at home and dies shortly afterwards, say in the first week, or even in the first month, it is quite likely that neither the birth nor death will be registered. This will depress the infant mortality rate. In basically rural societies such as St. Lucia and Dominica the true infant mortality rate is likely underestimated as represented by the reported infant mortality rate. The more recent (1979-82) Dominican rates are very suspect. A careful revision of these rates is warranted since it seems unlikely that Dominica would have the lowest infant mortality rate among the Caribbean countries.

The infant mortality rate for Dominica is in general higher than that of St. Lucia for the period 1950 to 1966. Between 1967 and 1982 the infant mortality rates for St. Lucia are higher than those of Dominica with only three exceptions. This reversal occurs four years earlier than was the case with the crude death rate and

TABLE 7

Crude Death Rates
Dominica and Saint Lucia

	DOMINICA			SAINT LUCIA		
Year	Crude Death Rate	Infant Mortality Rate	Crude Death Rate Adjusted*	Crude Death Rate	Infant Mortality Rate	Crude Death Rate Adjusted*
1950	18.6	143.4		15.0	115.2	
1951	16.8	126.7		17.1	134.2	
1952	20.9	153.0		15.2	118.0	
1953	14.4	126.9		13.8	113.1	
1954	13.8	99.4		12.1	101.3	
1955	15.3	120.3		11.9	98.1	
1956	16.0	132.0		12.7	101.9	
1957	14.7	107.2		14.1	95.6	
1958	15.6	110.9		13.8	115.4	
1959	13.8	103.2		13.9	111.2	
1960	15.4	107.4		13.6	107.1	
1961	13.3	116.4		12.9	101.7	
1962	10.8	73.7		12.5	102.9	
1963	13.2	98.3		11.3	78.4	
1964	9.3	52.9		7.9	44.9	
1965	8.8	53.9		8.5	41.9	
1966	8.2	49.6		7.8	41.2	
1967	7.7	34.4		9.2	53.0	
1968	9.1	48.8		7.7	48.8	
1969	10.6	58.3		8.3	68.4	
1970	10.7	47.9	10.7	8.4	74.8	8.4
1971	9.3	51.6	9.4	7.7	34.8	8.1
1972	7.4	34.7	7.6	8.9	54.2	9.1
1973	6.7	38.7	7.0	7.8	43.5	8.0
1974	6.7	28.1	7.1	7.5	30.4	7.8
1975	6.2	26.9	6.7	7.7	37.8	7.9
1976	6.8	23.0	7.3	7.8	31.1	8.0
1977	6.5	26.9	7.0	7.1	22.0	7.3
1978	5.3	19.6	5.6	6.7	28.5	7.0
1979	4.1	12.5	4.1	7.2	34.3	7.4
1980	5.2	14.3	5.2	6.7	25.3	6.9
1981	4.6	10.2	4.5	6.9	23.8	7.1
1982	5.5	10.8	5.5	6.6	22.5	6.8
1983	n.a.	n.a.	n.a.	6.2	26.3	6.4

* Adjusted based on Total population adjusted on the basis of the 1970 and 1980/81 Censuses.

n.a.=Not available.

1975-81 Infant Mortality Rates for St. Lucia are based on revised vital statistics figures. It is believed that a similar revision would change the rates of Dominica in an upward direction. IMRs of 10-11 for Dominica are not believable.

there are more exceptions to the general pattern. The turn-around in the infant mortality rate is the primary contributor to the one seen in the crude death rate. The differences in the magnitude of the infant mortality rates between Dominica and St. Lucia are relatively large. Since 1980, the St. Lucian rates are double those of Dominica and this should lead one to question the accuracy of those for Dominica. Once more, we must pose the question concerning the cause of this apparent switch in the position of these two societies with respect to mortality. How much of these differences are due to errors and how much to real change in the components of the rates? Underestimation of the Dominican rate seems the most likely answer.

Infant mortality declined in Dominica between 1950 and 1982 by 92 percent. Over the same time period it declined in St. Lucia by 80 percent. We cannot expect further declines in the rate for Dominica, assuming the rates are valid, but that of St. Lucia has the potential for being cut in half. The further decline in St. Lucia will depend on improvements in the quality of life and this is being severely impeded by the severe constraints on the economy in the early 1980's.

Dominica's infant mortality declined gradually and significantly from 1950-1961, and then it fell dramatically until 1971. The period 1972 to 1982 saw further rapid declines in that it fell by 69 percent over the ten year period. Even if the more recent figures are gross underestimates, and I think they are, it is still likely that infant mortality has declined very significantly in recent years. St. Lucia's rate, also fluctuated in a downward direction between 1950 and 1962. This unstable pattern of decline, but at a greatly reduced rate, continued between 1963 and 1982 for St. Lucia. The most recent ten year period 1974-1983 saw a relatively slow period of decline in St. Lucia. There is an emerging tendency in the early 1980's for Dominica's rate to fluctuate around ten and that of St. Lucia's around in the twenties. St. Lucia's current rate has the potential for further decline. Dominica's much lower rate is not likely to get any lower, but if this is not valid and the real rate is higher, then it is a different situation.

The level of infant mortality is sometimes used as an indicator of the general health and economic conditions of a country. Those shown in Table 7 imply that

conditions are better in Dominica than St. Lucia. Is this really the case in spite of the official statistics on these two countries? It is possible that the realities of these two countries are not well indicated by the generally available socio-economic indicators but underestimation of the infant mortality rate in Dominica seems more likely especially in light of the seemingly impossible low rates for 1981 and 1982. Further investigation is warranted. At this point one cannot rule out any of the possible explanations mentioned above and must seriously entertain the alternate which casts doubt upon the reliability and validity of the mortality statistics.

3.4 AGE SPECIFIC MORTALITY

Many factors are related to mortality but data on these relationships are unavailable except for age and sex. It is therefore possible to look at the relationships between age and sex, and mortality. Unfortunately the data bearing on these interrelationships were available for Dominica only for 1960. They are available for St. Lucia for a number of years from which we have chosen the last three census years and in this way avoid rates based on estimates. Table 8 present these age specific mortality rates.

In Table 8, the J-shape nature of the relationship between mortality and age can be seen. Mortality declines with the increase in age to about the age group 10-14, and then begins a slow increase with age up to the highest age category. Rates comparable to the infant mortality rates are not seen until the age group 80-84. The rates among children 1-4 years are not arrived at again until the age groups 60 and above. Mortality rates are very low between age groups 5-9 and 40-44. The climb in the age specific mortality rates is steep after age group 40-44. The pattern above holds for the total, male, and female populations and for the three time periods in the case of St. Lucia.

As would be expected, male mortality is higher than female among children under 10 years old. Among those in the age groups 10-34 in 1960 in Dominica, female mortality is higher than that for males. The same is true for St. Lucia for the age groups 15-29 in 1960. The differences between the male and female rates are not

large. These higher male rates in the very young ages represent the greater mortality among young male children due partly to accidents. The greater female mortality rates in the age groups associated with childbearing are in part related to maternal mortality; which was likely not insignificant in 1960.

TABLE 8

Dominica and Saint Lucia:
Age and Sex Specific Mortality Rates

Present Age	DOMINICA			SAINT LUCIA								
	1960			1960			1970			1980		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0	119.4	100.8	110.4	112.4	101.3	106.8	57.1	51.4	54.4	32.7	27.4	30.1
1-4	20.6	19.9	20.3	21.7	19.7	20.7	5.0	3.1	4.0	1.6	1.8	1.7
5-9	1.2	0.7	0.9	2.1	1.6	1.9	1.5	1.0	1.3	0.9	0.5	0.7
10-14	0.8	1.2	1.0	1.3	1.2	1.2	1.0	0.7	0.9	0.5	0.5	0.5
15-19	1.6	1.8	1.7	1.9	2.1	2.0	1.5	0.8	1.2	1.0	0.7	0.9
20-24	2.0	3.2	2.7	2.3	3.3	2.9	2.0	1.6	1.8	1.5	1.3	1.4
25-29	1.3	3.6	2.6	3.1	3.7	3.4	3.8	1.5	2.3	3.0	2.4	2.7
30-34	1.6	3.2	2.4	5.6	4.8	5.2	4.8	1.8	3.4	2.0	0.7	1.3
35-39	3.3	3.3	3.3	4.7	4.4	4.5	5.6	2.6	3.8	6.5	2.5	4.3
40-44	3.4	3.4	3.4	7.0	6.3	6.6	6.8	3.5	5.0	8.6	5.3	6.8
45-49	7.6	5.3	6.4	6.5	7.7	7.1	6.9	6.3	6.6	5.2	7.3	6.4
50-54	10.7	7.5	8.9	11.9	9.7	10.7	11.9	10.6	11.2	8.6	12.1	10.6
55-59	9.5	8.5	8.9	16.6	6.7	11.1	16.2	7.4	11.5	13.7	9.4	11.4
60-64	29.4	14.4	20.6	37.0	27.5	28.1	41.4	22.5	24.9	30.8	18.2	23.9
65-69	22.5	21.0	21.6	31.8	26.8	28.8	28.1	39.0	36.4	30.9	28.0	29.4
70-74	31.3	24.5	27.1	62.2	48.0	52.9	58.2	30.4	41.2	72.2	45.2	56.1
75-79	96.6	35.1	57.2	56.9	49.9	52.2	55.7	47.7	50.5	71.6	54.3	61.2
80-84	184.0	96.6	124.4	122.3	107.0	112.2	113.5	108.9	110.4	121.0	119.2	119.8
85+	267.4	162.7	193.2	188.8	199.4	196.0	122.9	134.1	131.2	165.7	154.6	157.6
All Ages	14.8	12.6	13.6	14.9	14.4	14.6			8.6			7.1

The mortality rates for males and females are quite similar for the age groups 35-39 and 40-44 for Dominica in 1960. From the age group 45-49 for Dominica, and 30-34 for St. Lucia in 1960, female mortality levels are lower than those of the males. The sex differences in mortality rates (favouring females) increased with age.

Female mortality is lower than that of male in 1970 and 1980 for St. Lucia. By 1970 maternal mortality is so low that an overall pattern of higher male mortality than female is established at all ages. It is perhaps safe to assume that a similar pattern exists for Dominica. We may therefore conclude that mortality is currently higher for males than females in St. Lucia and quite likely so in Dominica.

The decline in mortality between 1960 and 1980 for St. Lucia can be seen in Table 8. Male, female, and total infant mortality have declined over the period by 71, 73, and 72 percent respectively. The declines between 1960 and 1980 for male, female, and total child mortality (age-group 1-4) have been very dramatic, recording 93, 91 and 92 percent reductions. Child mortality is very low in St. Lucia. Lower rates of decline can be seen for some of the other age groups and in some cases there have been no declines, while in others there have been increases in mortality. The possible effects of degenerative diseases perhaps are being seen among age groups primarily associated with them and some of these are known to be increasing in significance as causes of death.

3.5 CAUSES OF DEATH

Dominica and St. Lucia like other Caribbean islands are undergoing changes in the distribution of deaths by causes. A full examination of this topic is beyond the scope of this paper; however, a few brief statements will be made on the subject based on examinations of the relevant statistical reports.

There have been dramatic declines in infective and parasitic diseases in Dominica and St. Lucia since 1960, but in the case of Dominica there are indications that the decline has continued up to the early 1980's while it would seem that in St. Lucia a levelling off has occurred since 1977. This is perhaps related to the current higher infant mortality rates in St. Lucia than in Dominica. In Dominica and to a lesser extent in St. Lucia diseases associated with nutrition have been declining. All diseases associated with early infancy have shown very significant declines.

Declines in the number of deaths due to diseases of the respiratory system and the digestive system have occurred over the recent past. Declines have been seen in the number of deaths from diseases related to senility and ill-defined conditions.

There have been recent increases or no change in deaths due to neoplasms, diabetes, hypertension, heart, liver and cerebrovascular diseases. These are major causes of adult mortality.

The increases in the number of deaths due to certain diseases are generally less than the declines, with the result that overall the number of deaths has been declining in the two countries. Overall, there have been decreases in the risk of dying in all time periods, for nearly all age groups.

3.6 LIFE EXPECTANCY

Life expectancies at birth in St. Lucia and Dominica have been improving since 1950. This measure of longevity improves with declines in infant mortality. A very brief presentation is made on this topic since it is a function of the mortality conditions and popularly used. The data needed for its calculation are almost nonexistent for Dominica and crude estimates are made in this case based on those of somewhat similar Caribbean countries.

In 1950 life expectancy at birth in Dominica and St. Lucia was less than 50 years. With the declining infant mortality over the following decade it increased to just under 60 years by 1960. With the slowdown in the decline in infant mortality between 1960 and 1970, the increase in the life expectancy was less dramatic and was under 65 years in 1970. By the early 1980's the life expectancies have increased to about 70 years and Dominica's is somewhat higher than that of St. Lucia. Because of the improved mortality conditions in Dominica and St. Lucia, especially infant mortality, life expectancies are approaching those of the more developed countries. Dominica's life expectancy at birth is perhaps around 72 in 1981 and St. Lucia's at 71. Further declines in St. Lucia's infant mortality rate will remove the difference. However, the infant mortality rates (IMRs) shown in Table 8 lead one to the conclusion that they are inconsistent with the above life expectancies at birth. Dominica's IMRs since 1979 are suspiciously low and are likely in error.

3.7 SUMMARY

Mortality conditions have been improving in St. Lucia and Dominica since 1950 and by 1982, the death and mortality rates are very low in Dominica and a little higher in St. Lucia. Life expectancy at birth has also been increasing and in the

early 1980's it is over 70 years. It had been around 50 in 1950. St. Lucia's crude death rate has the capacity for some further declines while Dominica's is as low as it will possibly get, even if life expectancy rises further. However, a revision of the infant mortality rates in Dominica will likely be in the upward direction and this will increase the crude death rate as well.

4.1 FERTILITY IN DOMINICA AND ST. LUCIA

An extensive analysis of fertility is made possible by the greater availability of data, since in addition to vital statistics we have the fertility data of the 1970 and 1980/1 Censuses of population. This allows the use of crude birth rates, age-specific fertility rates, average number of children ever born in relationship to certain characteristics of the mother, teenage fertility, age of motherhood at first and last births, childlessness, and other areas related to fertility.

General measures of fertility are utilized in this analysis. We will first present an overall picture of fertility over the period 1950-82 before proceeding with the in-depth analyses which are based in large parts on the census populations of 1970 and 1981 for Dominica and 1970 and 1980 for St. Lucia. All fertility measures used are based on the number of live births.

Fertility is one of the three determining components of the size, rate of growth, and composition of the population. With mortality at very low levels, migration and changes in fertility become the dynamism of the population processes. Migration is excluded from this paper. High fertility keeps the population young. Low fertility has much more to do with the aging of the population than does low mortality.

Government social and economic policies have indirect and direct implications for fertility. Currently of the three components of population growth fertility is seen as the one most crucial to population dynamics and the one that is most amenable to national governments' interventions. In this analysis we examine the trends in fertility over time and then look at its interrelationships with some selected factors. Knowledge of these is necessary if we hope to understand fertility and to provide a basis for successful intervention. Unfortunately our analysis

is restricted by the available data. We are therefore only able to paint the broad outline and to examine a small number of variables that are indirectly related to fertility. The intermediate factors, for example age at first exposure to pregnancy, time lost between partnerships and contraceptive use, which impinge in a direct way on fertility cannot be directly examined since censuses and vital registration systems do not collect data on these.

The analysis of this section is hampered by the unavailability of the data except in published form and by lack of computing facilities. The many calculations made on the census data were laboriously made and checked by the use of a pocket calculator.

4.2 THE FERTILITY SITUATION, PAST AND PRESENT

Historically, very high fertility levels as measured by the crude birth rates have not been recorded in the English-speaking Caribbean countries. Instead of rates of around 50 as have been recorded elsewhere, the English-speaking Caribbean high rates are likely to be around 45. Some reasons for this have been advanced, including sterility due to veneral diseases, childlessness from other reasons, the instability of the family patterns, imbalances in the sex ratios due to differential emigration, and of course over-estimation of the population and incompleteness of the registration of live births. The crude birth rates for Dominica and St. Lucia are in line with those of the other English speaking Caribbean countries at similar periods in their development.

The crude birth rates as seen in Table 9 increased for both St. Lucia and Dominica over the period 1950 to 1960. This represents somewhat a baby boom and was a common English-speaking Caribbean experience. Between 1960 and 1965 the rates remained fairly stable but with a downward tendency. Between 1965 and 1975 the Dominican crude birth rate declined steadily. Since 1975 a tendency towards stability at around 22 has become evident. The St. Lucia crude birth rate remained fairly steady between 1960 and 1970 with a slight downward tendency, and then for the period 1971 to 1983 declined erratically but with tendencies to stabilize for a few years before starting the decline again. The early 1980's have seen the St. Lucian rate tending to stabilize close to 30.

TABLE 9

Crude Birth Rates
for Dominica and Saint Lucia

Year	DOMINICA Crude Birth Rate	SAINT LUCIA Crude Birth Rate	DOMINICA Crude Birth Rate Adjusted*	SAINT LUCIA Crude Birth Rate Adjusted*
1950	35.9	35.6		
1951	37.5	35.7		
1952	39.2	35.4		
1953	38.3	36.5		
1954	42.3	36.4		
1955	44.8	40.8		
1956	41.7	40.1		
1957	43.5	43.6		
1958	45.8	43.0		
1959	46.7	44.2		
1960	46.9	45.1		
1961	44.3	42.2		
1962	42.2	41.4		
1963	40.0	41.9		
1964	40.0	42.7		
1965	42.7	45.5		
1966	40.0	45.3		
1967	38.4	43.7		
1968	36.9	36.0		
1969	35.8	42.1		
1970	35.5	43.9	35.5	43.9
1971	37.3	30.9	37.7	35.0
1972	35.2	39.2	36.3	40.0
1973	30.5	37.5	32.0	38.5
1974	26.9	35.8	28.6	36.5
1975	22.9	35.0	24.6	36.1
1976	22.3	34.5	24.1	35.6
1977	21.8	35.7	23.4	36.9
1978	21.3	33.5	23.5	34.7
1979	18.5	31.5	20.5	32.4
1980	22.0	29.3	24.4	30.5
1981	22.5	31.2	22.3	32.3
1982	23.3	32.6	23.2	33.5
1983	n.a.	31.0	n.a.	31.8

* Based on Total Population adjusted to the 1980/1 Census.

Sources: Governments of Dominica and Saint Lucia various Statistical Digests and Demographic Yearbook Special Issue, 1979.

The adjustments in Table 9 are based on the adjusted estimates of the total population shown in a previous section. The patterns are the same but the rates are slightly higher because the base populations are smaller in size.

The crude birth rates in Dominica and St. Lucia, after a period of increase following 1950, have been declining, but currently (early 1980's) have been showing strong tendencies to stabilize at just over 30 per 1000 in the case of St. Lucia and over 20 per 1000 for Dominica. The initial increase in fertility is likely due to changes in the population composition and changes in fertility behaviour associated with, and motivated by, socio-economic changes. The declines have been associated with other demographic changes, socio-economic development and increasing contraceptive practice.

Dominica's decline in the crude birth rate has been larger than that of St. Lucia over the period 1950-82 (35% vs 13%). The initial period increase in the rates were closer, 31 and 27 percents respectively for Dominica and St. Lucia between 1950 and 1960. The declines between 1960 and 1982 have been greater for Dominica than St. Lucia (50% vs 31%). Dominica's crude birth rate, like its crude death rate, has shown much larger declines than that of St. Lucia. The reasons are not obvious, but are perhaps related to the validity and reliability of the data on which the rates have been calculated as well as socio-cultural difference which impinge on fertility, and emigration.

Looking at Table 9, we find that from 1950 to 1962 Dominica's crude birth rate was higher than that of St. Lucia and for the next 20 years (1963-82) with two exceptions, St. Lucia's is higher than Dominica's. We have noticed before a similar turnaround examining the crude death rates in an earlier section. In 1950 the crude birth rates were approximately equal and in 1980 St. Lucia's adjusted crude birth rate was six births per thousand higher. If the crude birth rates are accurate then St. Lucia's is relatively high compared to Dominica's.

The age distribution of women in the childbearing ages has implications for fertility. Two populations with different age distributions over the childbearing age groups, would be expected to have, all other things being equal, different levels of fertility as measured by the crude birth rate. The age distributions of

St. Lucia and Dominica may be a major factor in accounting for the differences in the crude birth rate. It is possible to take the age distributions of the populations into account when comparisons are being made. This is especially necessary if the distributions of women in the childbearing ages are greatly different from each other.

In Table 10, we look at the age distributions of women 15-49 by 5-year age groups for the last three census years. We are assuming that age distributions in childbearing ages are fairly stable over short periods of time.

TABLE 10

Dominica and Saint Lucia
Percentage Distribution of Women in the Childbearing Ages

Present Age	DOMINICA			SAINT LUCIA		
	1960	1970	1981	1960	1970	1980
15-19	21.1	26.2	29.0	21.8	24.5	27.7
20-24	19.0	19.1	20.7	18.1	18.9	20.8
25-29	14.9	12.6	13.8	14.9	13.5	14.6
30-34	12.1	11.0	11.1	12.7	10.8	11.8
35-39	11.5	11.2	8.9	12.8	11.3	9.3
40-44	11.3	10.0	8.4	10.5	10.9	8.2
45-49	10.1	9.9	8.1	9.2	10.1	7.6

Sources: Censuses of Population 1960, 1970 and 1980/1.

The age distributions are quite similar for the two countries in 1960. The results of the earlier higher fertility levels of Dominica can be seen by the higher percentages in the age group 15-19 in 1970 and 1980/1 for Dominica compared to St. Lucia. However, even in this age group with the highest percentage differences, the discrepancies are small, 1.7 percent in 1970 and 1.3 percent in 1980/1. This lower percentage in this high fertility group should be a factor in St. Lucia's higher crude birth rates. The absolute percentage average differences between St. Lucia and Dominica are similar for 1970 and 1980/1 (0.6% vs 0.57%). Except for the first age group (15-19) the percentage differences between Dominica and St. Lucia are

quite small. It is not likely that these differences in the age distribution will account for all the differences in the crude birth rates. Paucity of appropriate data does not allow us to remove by standardization the effects of these compositional factors from an aggregate rate such as the crude birth rate. Since we are presenting other fertility measures further analysis of the crude birth rate is unwarranted. It is used mainly to present a picture of the past and present fertility situations at the macro level as a background to the pending additional examination of fertility.

4.3 AGE SPECIFIC FERTILITY RATES

A consideration of age specific fertility rates overcomes the problem of the confounding effects of differences in age distributions. The total fertility rates calculated from these age specific rates do so as well. We have seen that the age distributions are somewhat similar for Dominica and St. Lucia.

Age specific fertility, and total fertility rates are shown in Table 11. Caution should be exercised in their use since they are obtained from different sources and their accuracy may vary from source to source depending on the care with which the data are assembled and the preciseness of the calculations.

The fertility rates for the 15-19 age-group increase for both countries from 1960 to 1970 and declined slightly between 1970 and 1980. A similar increase between 1960 and 1970 is seen for the age groups 20-24 and 25-29 and a dramatic decline by 1980. Age specific fertility rates fell from 1960 to 1980 for women 30-34. Following an increase between 1960 and 1970 for Dominica, the age specific fertility rate for the age group 35-39 fell, and it decreased from 1960-80. Fertility went up among the younger age groups between 1960 and 1980 for St. Lucia. The age-groups 40-44 and 45-59 experienced declines over the period 1960 to 1980. Fertility went up among the younger age groups between 1960 and 1970 but declined among the older ones. All age groups, except one, had declining fertility between 1970 and 1980. Overall the patterns of decline are similar for Dominica and St. Lucia.

TABLE 11

Dominica and Saint Lucia:
Age Specific Fertility Rates and Total Fertility Rates

Age of Women	DOMINICA			SAINT LUCIA		
	1960[1]	1970[2]	1980[3]	1960[1]	1970[1]	1980[1]
15-19	113.2	155.1	152.0	155.0	159.3	146.8
20-24	281.8	305.5	229.3	342.1	424.3	217.6
25-29	304.5	334.7	200.0	332.7	348.7	183.5
30-34	251.9	243.3	143.9	273.4	254.1	125.5
35-39	169.0	180.1	81.3	185.2	133.9	84.8
40-44	87.4	77.6	23.4	77.2	35.9	30.5
45-49	22.7	19.3	NA	14.9	2.5	3.7
TFR*	6.15	6.58	4.16	6.90	6.79	3.96

* TFR = Total Fertility Rate; NA = Not Available

Sources: 1. Supplied by Departments of Statistics, Dominica and St. Lucia.

2. Jack Harewood: 1970 U.N. Projections for the Caribbean (unpublished, 1973).

3. 1981 Census of Population

The age specific fertility rates of women under 35 years of age in 1960 and 1970 are higher for St. Lucia than for Dominica, but the reverse is true in 1980. For women 35 years to 49 years, the age specific fertility rates in 1960 and 1970 are lower for St. Lucia than for Dominica and reverse for 1980. The age specific fertility rates for Dominica and St. Lucia exhibit differences that seem roughly in line with those seen for the crude birth rates for 1960 and 1970 but slightly at odds for 1980. The total fertility rates bring this out more clearly. This apparent discrepancy between the crude birth rates of Table 9 and the age-specific and total fertility rates of Table 11 is likely due to differences in age distribution and errors in the data. For 1960 and 1970 the total fertility rates of St. Lucia are higher than those of Dominica but the 1980 Dominica's rate is slightly higher.

The age specific fertility rates are highest for the age groups 20-24 and 25-29. The data of Table 11 show that childbearing is primarily confined to the age-groups 15-39. The rates for women in their forties are very low compared to those in their twenties. The teenage rate is relatively higher than the rates for women over 40 but in all cases less than the rate for women in their twenties.

In Table 12 we present age specific fertility rates based only on census data. The relative position of St. Lucia and Dominica remains consistent with that shown in Table 11.

Fertility is higher for women under 30 in Dominica than in St. Lucia in the year before their respective most recent census. St. Lucia's rates among women 30 and over are higher than Dominica's; as is its total fertility rate.

TABLE 12

Dominica and St. Lucia:
Age Specific Fertility Rates in the Year Preceeding the Census

Age Group	DOMINICA	ST. LUCIA
	ASFR 1980-1	ASFR 1979-80
15-19	152	141
20-24	229	226
25-29	200	191
30-34	144	153
35-39	81	117
40-44	23	53
TFR	4.1[1]	4.4[1]

Sources: 1980/1 Census of Population.

1 Differences between these and comparable figures in Table 11 are likely due to differences in the reference periods as well as variations among the different data sources in terms of coverage and accuracy.

4.4 AGE SPECIFIC FERTILITY AND EDUCATION

Education is known to be a major explanatory variable for fertility. In this section we look at age specific fertility rates for two educational categories. The data are the same as for Table 12 but with education introduced as an explanatory variable, and presented in Table 13.

TABLE 13

Dominica and St. Lucia:
Age Specific Fertility Rates by Highest Level of Education Attained

Age Groups	DOMINICA 1980-81		ST. LUCIA 1979-80	
	EDUCATION		EDUCATION	
	Primary or Less	Secondary or More	Primary or Less	Secondary or More
15-19	155.1	169.8	150.3	132.6
20-24	242.9	196.6	242.6	190.6
25-29	211.5	171.1	201.7	135.2
30-34	143.7	145.6	160.5	97.3
35-39	81.9	84.4	119.8	93.0
40-44	21.2	45.1	55.4	18.2
TFR	4.3	4.1	4.6	3.3
Mean Age of Child-bearing	26.4	27.0	27.1	26.6

The total fertility rates between the two educational groupings are in line with expectation. Women with secondary and higher levels of education have lower total fertility rates than those with only primary education or less in both Dominica and St. Lucia.

The pattern of differences between levels of education controlling for age is indeterminate in the case of Dominica. In St. Lucia's case, for all age groups, women with secondary and higher education had lower age specific fertility rates than those with primary or less.

St. Lucian women with secondary and higher education, in general, have lower age specific fertility rates than Dominican women. Among the primary or less educated groups in the two countries the pattern of differences is indeterminate. Dominican women under 30 years of age have higher age specific fertility rates than St. Lucian and those thirty years or older have lower rates in Dominica.

Shown in Table 13 is the mean age of the mothers at the birth of the children in the year before the census for the two educational groupings. In Dominica, the lower educated women have slightly lower average age at childbearing in 1980-81 than the better educated ones. For St. Lucia in 1979-80 the better educated women are somewhat younger at the birth of their children than the less educated ones. The St. Lucian average age at childbearing is not in the expected directions while Dominica's is.

The expected relationship between education and fertility is present but it is not a perfect relationship. We can conclude, however, that education and fertility have a negative association even when we use age specific rates as our measure of fertility. These age specific rates establish higher fertility in the year before the census among women under age 30, and lower after age 30 for Dominican women with primary and less education than for St. Lucian women of similar age and education. Dominican women with secondary and higher education, in all age groups had lower age specific rates in the year before the census than comparable St. Lucian women. Age specific fertility rates, because they are period rates, are not likely to reflect in as clear a way the relationship between fertility and education as is the case with cumulative fertility to date. Even so, the negative association between education and fertility is indicated.

4.5 AGE SPECIFIC FERTILITY AND UNION STATUS

The nature of family formation patterns in the Caribbean in general and in particular in the English-speaking Caribbean countries has given rise to the recognition of union status in addition to marital status. Union status is in the context of this section divided in three categories. Women who were legally married at the time of the census if they are age 45 and younger, and those who were married

at age 45 if they are 45 and over. Women who were living with a male partner in a stable relationship and not married to him are classified as common law. Those women who had a live birth in the twelve months preceding the census and are not married or do not share a common residence with a male partner are categorised as being in a visiting relationship. Common law and visiting statuses, like married status, are assigned at present (census time) for women 45 years and younger; for those over forty five their union status is that which existed at age 45. The kind of union is expected to have a relationship to fertility and that is briefly examined here. Again period rates pose a special problem. The definition of visiting unions seems to have resulted in errors of classification by the enumerators and even though presented here it should be used with caution.

Union status is presented in Table 14 along with age specific fertility rates in the twelve months preceding the census controlling for age at the time of the censuses. The 'other' category is included as an alternative to 'visiting'. It includes visiting as well as those who never had or no longer have a husband or common-law partner.

Women in visiting unions have the highest age specific fertility rates. These rates for visiting unions are spectacularly higher than those in common law and married unions. What we are seeing here is a definitional artifact and/or classification error to a large extent. Women who had a live birth in the twelve months preceding the census and were not in a common law or married union are by definition in a visiting union. Women in a visiting union who did not give birth to a child or were not pregnant would be more likely to be categorized as single. However, all women sharing a common residence with a male partner would be classified as either married or common law depending upon the legal status of the relationship. The visiting rates would have been lower had all women who were in a visiting union been classified as one and hence increase the size of the denominator used in the calculation of the fertility rates.

Common law women in St. Lucia, in all age groups, had lower fertility in 1970-80 than women who were married. There is no consistent pattern of differences

TABLE 14

Dominica and St. Lucia:
Age Specific Fertility Rates by Union Status

	DOMINICA 1980-81				ST. LUCIA 1979-80			
	UNION STATUS				UNION STATUS			
Age Groups	Married	Common Law	Visiting[1]	Other[2]	Married	Common Law	Visiting[1]	Other[2]
15-19	583[3]	355	683	145	381	387	835	130
20-24	328	355	565	187	326	324	773	187
25-29	255	224	429	167	215	240	694	159
30-34	156	171	360	127	170	180	635	122
35-39	95	76	294	59	125	144	573	85
40-44	29	37	128	13	71	57	282	26
TFR	7.2	6.1	12.3	3.5	6.4	6.7	19.0	3.5

1 The figures for "visiting" are invalid because of classification errors.

2 The "other" category includes women in visiting unions and those who no longer have, or never had a husband or common-law partner.

3 Less than 25 women.

Source: 1980/1 Census of Population.

between the fertility rates of married and common law women in Dominica. The 'other' group had the lowest rates in both countries.

In general it may be concluded that women in visiting unions have higher age specific fertility rates than either married women or those in common law unions in St. Lucia and Dominica; and married women age specific fertility rates are in general lower than those in common law unions and 'other' have the lowest rates. However these rates are ridiculously high especially for visiting unions and the problems of measurement are playing a major part in the inflation of these rates. The absolute sizes should be ignored and attention paid only to the trends controlling for age. These period rates are very sensitive to definitional and

measurement problems and the visiting unions as defined by the census is a good example. The 'other' category is preferred in this context vis-a-vis the visiting.

4.6 SUMMARY - AGE SPECIFIC FERTILITY

The foregoing analyses using age specific fertility rates should be considered with caution. Except for some parts of Table 11, the rates are calculated from censuses instead of the usual combination of birth registration data for the numerator and census population data for the denominator. We believe the two approaches yield different results and that the conventional one is preferable. The census based rate when used in association with other variables from the census raises problems of the kind we encountered with union status above. Under reporting of births is likely worse in the census than in vital registration due in part to problems of memory, and exclusions.

The data on differentials by education and union status were available only from the most recent census. The births in a year are unlikely to capture the full essence of the relationships between fertility and education or union status. These two achieved social characteristics will have more implications for a cohort rate than for a period one. A period rate is likely to be capturing the timing of events without reflecting on the overall outcome.

4.7 SOME OTHER MEASURES OF FERTILITY

Three measures of fertility are briefly examined in this section. The total fertility rate has already been used but is included here also. The general fertility rate may be defined as the number of births per 1,000 women of childbearing age. The total fertility rate is the sum of the age specific fertility rates. It can be seen as the completed fertility of a synthetic cohort of women. The gross reproduction rate is a special case of the total fertility rate. The gross reproduction rate measures the number of daughters a synthetic cohort of women will have.

TABLE 15

Dominica and St. Lucia:
General Fertility Rate (GFR), Total Fertility Rate (TFR) and Gross Reproduction Rate (GRR) for 1960, 1970 and 1980.

	DOMINICA			ST. LUCIA		
	General Fertility Rate	Total Fertility Rate	Gross Reproduction Rate	General Fertility Rate	Total Fertility Rate	Gross Reproduction Rate
1960	230	6.2	3.0	229	6.9	3.3
1970	210	6.6	3.2	224	6.8	3.3
1980	---	4.2	2.0	150	4.0	1.9

The general fertility rate of Table 15 gives further evidence of the decline in fertility between 1960 and 1980 in Dominica and St. Lucia. The total fertility rate as was seen before presents generally the same picture of a declining fertility in the two societies under study. The gross reproduction rate lends further support. Fertility has declined significantly in St. Lucia and Dominica between 1960 and 1980. These more refined fertility measures in comparison with the crude birth rates do not show Dominica's rate of fertility decline to be that much more impressive than St. Lucia's and their current fertility levels are very close to each other as seen by these more refined measures.

4.8 AVERAGE NUMBER OF LIVE BIRTHS AND AGE

The number of children ever born to date is partly a function of the age of the woman. Changes in fertility over time can be seen by examining the distribution of this current fertility at different points in time. At a point in time it is also possible to compare the average number of live births to date, controlling for age, for two or more populations. The comparisons for women still in the childbearing age are revealing only in the tempo or timing of births. This timing of births has implications for period measures of fertility. However, for impacts on family sizes, and on the total population of the society the number of live births a woman eventually has is more telling. Women who are still in the childbearing ages can

speed up the rate of having children by shortening the intervals between births or they can terminate childbearing which then would make current fertility completed fertility. Comparisons of the number of children ever born to women age 45 and over, is a comparison of completed fertility and can over time reveal changes in family size.

In Table 16 is presented the average number of live births to women in Dominica and St. Lucia at the time of the two most recent censuses. Comparable data from the 1960 census were unavailable. In 1970, for each age group, the average number of live births in Dominica was greater than that in St. Lucia. For Dominica in 1981 and St. Lucia in 1980 the pattern is not as consistent and clear. For the teenage cohort in 1980/81 Dominica's average is slightly higher. For the age groups 20-39, St. Lucia's numbers of children ever born are higher. The age groups 40-64 in 1980/81 show no consistent pattern of differences between Dominica and St. Lucia. The period birth rate differences of the past, seen in earlier sections, contribute to the patterns seen in Table 16.

The increases in the crude birth rates evidenced earlier manifest themselves in the higher completed fertility rates seen among the women 45 years and older in 1980/81. The change around seen in the crude birth rates for Dominica and St. Lucia can be seen also in the average number of live births for the age groups in 1970 and 1980/81.

The frequently occurring phenomenon of lower completed fertility for the oldest age cohorts compared to those recently exiting the childbearing ages can be seen in Table 16. Older women are more likely than younger ones to forget live births that died in early infancy, or the adult at home at census time making the report is less likely to know about all the live births of the older women than they would of the relatively younger mothers. On the other hand since the lower fertility is seen only among women 50 years and older it may be a manifestation of lower fertility in the depression years of the latter part of the 1920s and early part of the 1930s. The higher fertility of the women under 50 may be a reflection of higher post World War II fertility (the baby boom).

TABLE 16

Dominica and St. Lucia:
Average Number of Children Ever Born
by the Present Age of the Women

	DOMINICA		ST. LUCIA	
Present Age	1970	1981	1970	1980
15-19	0.35	0.34	0.24	0.30
20-24	1.61	1.13	1.54	1.26
25-29	3.48	2.25	3.17	2.50
30-34	4.93	3.52	4.55	3.84
35-39	5.90	4.62	5.57	4.98
40-44	6.13	5.80	5.65	5.74
45-49	5.60	6.12	5.52	6.13
50-54	5.25	6.06	5.00	5.90
55-59	4.75	5.18	4.69	5.49
60-64	4.73	5.02	4.48	4.90
65+	NA	4.49	NA	4.51

NA = Not Available

Sources: 1970 and 1981/1 Censuses of Population.

Completed fertility as measured by children ever born is high in both St. Lucia and Dominica. However, average family sizes as measured by surviving children are no doubt smaller than completed fertility because of depletion due to high infant mortality in the past. The women who are currently (1980/1) in the age groups at the end of the childbearing period (45-49) have higher levels of completed fertility than those who have recently passed through the childbearing period (50-54) and their family sizes are likely to be larger because of lower infant and child mortality during the period of their childbearing. Of course one cannot rule out the possibility that these differences are more apparent than real.

4.9 AVERAGE NUMBER OF CHILDREN EVER BORN AND EDUCATION

The relationship between cumulative fertility at the time of the 1970 and 1980/81 censuses and education taking into consideration the age of the women at the time is examined in this section. It was argued in a previous section that this measure of fertility has a much greater likelihood of capturing the essence of the relationship between natality and education. In spite of this, one cannot discount the effects of the timing of births among those women still in the childbearing ages. It is not possible, in the case of these women, to discount behaviour related to spacing and stopping of births. So at least for those women still in the childbearing ages, differences in fertility by educational classification may in part be due to the differential timing of births among educational achievement groups. We can however, discount this among women 45 years of age and over even though differentials in birth intervals may be related to education and hence is a confounding variable. But our task here is not to investigate the paths through which education makes its impact on fertility.

The educational categories used in the 1970 Census are different from those of the 1980/81 Census. Instead of forcing a congruence, the two time periods are kept separate and the data are presented in Tables 17 and 18. The more detailed categorization of Table 17 creates a problem of small cell sizes in the case of Dominica. In Table 18, it can be seen that educational achievements have been made compared to 1970; so now we have a problem of small numbers with the less than primary education group, especially in Dominica, and the secondary and above groups among women 45-64. Caution is warranted when drawing conclusions based on these tables because of this problem of small subsamples.

In general, the relationship between education and fertility is negative in St. Lucia in 1970, taking present age into consideration. Within each age group in St. Lucia in 1970, the lower the education the higher the number of children ever born. The differences in the average number of children ever born by years of education among St. Lucian women in 1970 with five or fewer years of education are quite small but in the expected direction of a negative relationship. Those women with six years of education have significantly smaller average numbers of children

ever born than those with five or less (in St. Lucia in 1970). Women with seven or more years of education in turn have smaller average number of live births than those with six or fewer years. It would seem that in the case of St. Lucia in 1970, even though a moderate measure of negative association exists between fertility and education, controlling for age, the really obvious differences exist in cumulative fertility among women with 5 or fewer years of education, 6 years, and 7 years. It requires, at least 6 years of education in order for educational achievements to have an impact on fertility.

The overall Dominican average number of children ever born, as shown in Table 17 for the census population of 1970, is negatively associated with education. The detailed age-education breakdown presents a very blurred picture of the relationship between education and fertility in Dominica. Perhaps the reason for this indeterminancy is in part the problem of small subsamples and/or the lower fertility is more homogenous across the subgroups. Even using the entire population of Dominica in 1970 one runs into small numbers in the cells of an 8 x 11 cross classification. However, it is possible to conclude that in Dominica as in St. Lucia the average number of children ever born is negatively associated with education. Also we can conclude that the crucial turning point in educational achievement in so far as its effects on fertility is felt comes with six or more years of schooling.

In 1970, the numbers of children ever born to women within the different educational categories are higher in Dominica than in St. Lucia. The detailed breakdown by age does not afford a ready generalization on the nature of the differences between Dominica and St. Lucia. However, we can say, that the average numbers of live births in 1970 for women with five or more years of education, taking age into consideration are higher for Dominica than St. Lucia and that these differences are quite substantial between women with 6 years of education in the two countries and even more so between those with seven or more years of education.

By 1980/1 (Table 18) the turnaround in the period rates seen earlier between Dominica and St. Lucia begin to show up in the cohort rates (average number of live births per five year age cohorts of women). Dominican women with less than primary education have had smaller average numbers of live births than St. Lucian women.

TABLE 17

Dominica and St. Lucia:
Average Number of Children Ever Born
by Age of Mother at Present (1970) and Education,
Women 14-64 Years of Age and Not Attending School

ST. LUCIA

Present Age of Mother	EDUCATION							
	None	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 or More Years
14	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1
15-19	0.5	0.7	0.5	0.4	0.4	0.4	0.2	0.2
20-24	2.1	2.4	2.1	2.2	2.0	1.8	1.3	0.6
25-29	3.9	3.9	3.9	3.7	3.3	3.5	2.7	1.7
30-34	5.4	4.3	4.6	4.8	5.0	4.5	4.3	2.7
35-39	6.3	6.3	5.9	5.8	5.8	5.5	5.0	3.8
40-44	6.2	7.1	6.1	5.9	5.7	5.3	5.1	3.1
45-49	6.3	5.9	5.9	6.1	5.5	5.3	4.7	2.8
50-54	5.8	5.1	5.9	5.3	5.0	4.6	4.0	2.7
55-59	5.8	5.2	4.4	4.6	5.2	4.4	3.1	2.6
60-64	5.4	5.1	4.8	5.2	4.6	4.4	3.0	2.1
Total	5.3	5.0	4.5	4.3	3.8	3.1	2.4	1.5

DOMINICA

14	0.0[1]	-	0.0[1]	-	0.0[1]	0.1[1]	0.1[1]	0.1[1]
15-19	0.1[1]	0.0[1]	2.0[1]	0.6[1]	0.6	0.5	0.3	0.3
20-24	1.4	2.0[1]	2.7[1]	2.3[1]	1.8	1.9	2.0	1.5
25-29	2.7[1]	4.8[1]	4.6[1]	3.8[1]	3.7	4.0	3.9	3.4
30-34	5.0	3.4[1]	5.1[1]	5.7[1]	4.9	5.6	4.8	4.9
35-39	6.3	8.0[1]	7.6	6.9	6.6	6.5	6.0	5.7
40-44	6.0	7.3[1]	7.1[1]	6.8	7.1	7.2	5.9	6.0
45-49	4.8	8.5[1]	5.3[1]	5.6	6.0	6.1	5.7	5.6
50-54	5.6	7.1[1]	4.8	4.6	5.8	5.2	5.0	5.2
55-59	5.8	5.4[1]	5.4	5.6	4.3	5.0	5.3	4.4
60-64	5.4	5.0[1]	4.4	6.0	4.8	5.2	4.4	4.5
Total	5.2	6.2	5.4	5.2	4.9	4.8	4.1	3.4

- No Women in this cell
[1] Number of Women less than 25

Source: Calculated from 1970 Population Census of the Commonwealth Caribbean Volume 8: Census Research Programme, University of the West Indies, Mona, Jamaica.

Dominican women under age 45 with primary education have slightly fewer live births than St. Lucian women while those who are 45 years and older have slightly higher levels of completed or near completed fertility. The younger Dominican women are the ones effecting the turnaround in the period rates and only time will tell if it is a timing phenomenon. In either case the differences in average number of live births for the same age cohorts of women in the two populations are quite small. Turning to a consideration of the fertility of women with secondary and above education we find that among women under 35 years of age there is hardly any difference in cumulative fertility between the two islands. However, women 35 years and older with secondary and above education in Dominica have higher average numbers of live births than their St. Lucian counterparts.

In summary, up to 1970 Dominica's cumulative fertility was higher for the different educational groups but by 1980/81 the younger Dominican women and those with less than primary education have had lower numbers of live births than their St. Lucian counterparts. Older primary educated women and those with secondary education in 1981 in Dominica had higher average numbers of live births than the St. Lucian women of similar age and education in 1980. The turnaround in fertility which shows Dominica's period rates as lower than those of St. Lucia is showing up in the cumulative rates as of 1980/1.

In Table 18 if we confine our attention only to cells based on at least 100 women, the relationship between fertility and education emerges as negative and hence in the expected direction. Women in both St. Lucia and Dominica have lowest levels of cumulative fertility up to 1980 if they have had secondary and higher education. In St. Lucia and Dominica as elsewhere women with secondary and above education are likely to have lower completed fertility than those with primary and less.

4.10 CHILDREN EVER BORN AND UNION STATUS

Family formation patterns in the English-speaking Caribbean countries are quite complex. In this section we capture only one aspect of this social phenomenon, that is, the current union status of women 45 years and younger and the union status that

TABLE 18

Dominica and St. Lucia:
Average Number of Children Ever Born
by Present Age of Mother (1980/81) and Education

	DOMINICA 1981			ST. LUCIA 1980		
	EDUCATIONAL ATTAINMENT					
Age Group	Less Than Primary	Primary	Secondary and Above	Less Than Primary	Primary	Secondary and Above
15-19	0.3[3]	0.3	0.3	0.3[4]	0.3	0.2
20-24	0.7[3]	1.3	0.7	1.5[4]	1.5	0.8
25-29	2.2[2]	2.6	1.4	2.8[4]	2.8	1.3
30-34	3.7[3]	3.8	2.1	4.4	4.1	2.0
35-39	4.4[3]	4.9	3.4	5.8	5.1	2.5
40-44	5.4[4]	6.0	4.8	7.0	5.7	3.1
45-49	6.7[4]	6.2	5.0	7.1	6.1	3.3[4]
50-54	6.3[4]	6.2	5.1[4]	6.5	5.9	2.7[4]
55-59	5.2[4]	5.4	3.7[4]	6.0	5.5	2.9[4]
60-64	4.1	5.3	3.1[4]	5.5	4.8	2.5[4]
65 and over	5.2	4.4	3.5	5.4	4.2	2.0
All Ages	4.7	3.7	1.7	5.6	3.5	1.0

[2] Less than 25 women
[3] Less than 50 women
[4] Less than 100 women

Source: 1980/1 Census of Population.

existed at age 45 for those over 45 years of age. The instability associated with the union formation is said to affect fertility. In Tables 19 and 20 we present the cumulative fertility situations at the two most recent censuses with respect to the age of the women at those two points in time and their union statuses as described above.

Married women and women in common law and visiting unions, in both 1970 and 1980/1, who are under the age of 35 have similar levels of cumulative fertility in both St. Lucia and Dominica (Tables 19 and 20). Married women at the two census times in Dominica and St. Lucia have higher completed fertility levels than common law women. There are none or very few women in visiting unions after age 45 in these two societies. Where they are as can be seen in Table 20, subject to random variations due to small numbers, it would seem that their completed fertility levels are lower than those of women in common law and married unions.

In general it would seem that there is no clear pattern among the three union types for women in the childbearing ages. The timing of births within the different union types and the changing of women among union statuses are likely to be confounding factors. However, for women who have completed their childbearing those in married unions have had the highest levels of fertility followed by those in common law unions and the small groups of women in visiting unions the fewest number of children ever born.

From Tables 19 and 20, we can conclude that women classified as never having a husband or partner (ever single women and those formerly in visiting unions) have the lowest current as well as completed levels of fertility. Women who were once married and those who once had a partner, but at the time of the censuses had none, have had levels of completed fertility not unlike those of women who are married or in common law unions. If they are in the childbearing ages their cumulative fertility levels are relatively low compared to those women living with a partner.

In 1970, the fertility levels of the women in the childbearing ages are fairly similar across the different union statuses. However, women who have completed their childbearing have higher levels of fertility in Dominica than in St. Lucia. By 1980/1 the turnaround seen in the period rates are showing up in the cumulative rates and blurring the distinctions between Dominica and St. Lucia. The overall cumulative fertility rates are similar for the comparable union status categories in Dominica and St. Lucia. There are indications that Dominica's rates are lower in 1981 among the women in the childbearing ages than St. Lucia's in 1980 but that Dominica's completed fertility levels are higher.

TABLE 19

Dominica and St. Lucia 1970:
Average Number of Children Ever Born by Current Union Status* and Present Age of the Women Age 15-64 Years and Not Attending School

	DOMINICA						ST. LUCIA					
	UNION STATUS						UNION STATUS					
Present Age	Married	Common Law	Visiting	No Longer Living With Husband	No Longer Living With Common Law Partner	Never had Husband or Partner	Married	Common Law	Visiting	No Longer Living With Husband	No Longer Living With Common Law Partner	Never Had Husband or Partner
15-19	1.2	1.3	1.3	-	1.2[1]	0.1	1.1	1.1	1.3	-	1.0	0.1
20-24	2.2	2.8	2.4	2.6[1]	2.0	0.7	2.3	2.4	2.3	1.5[1]	1.9	0.6
25-29	3.9	4.6	4.0	3.4[1]	3.1	1.9	3.8	3.6	4.0	3.7[1]	3.2	1.6
30-34	5.7	5.8	6.0	3.7	4.2	2.4	5.4	4.7	5.4	3.9	4.1	2.3
35-39	6.6	6.7	7.2	5.1	4.4	3.5	6.6	5.2	6.9	5.4	4.5	2.7
40-44	7.2	5.8	7.3	5.7	5.4	3.2	6.6	5.3	8.7	4.8	5.1	2.3
45-49	6.7	5.4	7.2[1]	6.0	5.0	2.7	6.5	5.0	9.1[1]	5.2	5.0	2.5
50-54	6.2	4.7	-	5.8	4.4	2.0	5.8	4.9	-	5.2	5.3	2.3
55-59	5.7	4.8	-	5.1	4.2	1.9	5.5	4.4	-	5.5	5.0	2.0
60-64	5.7	4.8	-	5.2	4.2	1.4	5.6	4.5	-	4.9	5.0	1.5
Total	5.8	4.6	3.2	5.4	4.2	1.1	5.6	3.8	3.0	5.0	4.2	0.9

- No women in these cells
[1] Less than 25 women in these cells
* Union Status for those 45 and under is the current status, but for those over 45 it is that which existed at age 45.

Source: 1970 Population Census of the Commonwealth Caribbean Volume 8. Census Research Programme, University of The West Indies, Mona, Jamaica.

TABLE 20

Dominica and St. Lucia 1980/1
Average Number of Children Ever Born by Union Status*
and Present Age of the Women

	DOMINICA 1981						ST. LUCIA 1980					
	UNION STATUS						UNION STATUS					
Present Age	Married	Common Law	Visiting	No Longer Living With Husband	No Longer Living With Common Law Partner	Never had Husband or Partner	Married	Common Law	Visiting	No Longer Living With Husband	No Longer Living With Common Law Partner	Never Had Husband or Partner
15-19	0.8	0.9	1.1	-	1.0[4]	0.1	0.7[3]	0.9	1.1	-	1.0[4]	0.1
20-24	1.6	1.8	1.5	2.2[1]	2.0	0.6	1.8[2]	2.0	1.8	1.7[2]	1.8	0.6
25-29	2.5	3.0	2.4	2.2[2]	2.7	1.5	2.9	3.2	3.0	2.4[3]	2.8	1.4
30-34	3.8	4.2	3.3	3.2	3.6	2.4	4.3	4.4	4.6	3.9	3.4	2.3
35-39	5.0	5.3	4.4[4]	4.7[4]	4.5	3.2	5.6	5.1	5.6	5.0	4.7	2.9
40-44	6.5	6.2	5.8[3]	5.3[4]	5.9	4.1	6.6	5.8	4.9[3]	5.4	5.6	3.2
45-49	7.1	6.2	6.1[3]	6.1	6.1	3.2	7.1	5.6	5.0[2]	5.8	5.7	3.5
50-54	7.1	6.5	6.0[3]	6.3	5.4	3.3	6.8	5.4	4.7[2]	6.3	5.0	2.8
55-59	6.2	5.9[4]	4.2[2]	5.3	4.9	2.7	6.5	5.0	4.5[2]	5.6	4.8	2.1
60-64	6.2	4.3[3]	4.2[2]	5.2	5.0	2.3	5.7	4.7[4]	2.1[1]	5.0	4.9	2.0
65+	5.7	3.7[4]	3.4[2]	4.9	4.3	1.8	5.5	5.0	3.3[3]	5.0	4.5	1.8
Total	5.4	3.7	2.2	5.1	4.1	1.2	5.5	3.7	2.3	5.2	4.1	1.0

\- No women in these cells
1 Less than 10 women
2 Less than 25 women
3 Less than 50 women
4 Less than 100 women

* Union Status for those 45 and under is the current status, but for those over 45 it is that which existed at age 45.

Source: 1980/1 Census of Population.

Once again the complexity of the family formation patterns and the complex nature of the relationship to fertility under changing conditions are encountered and present us with a feeling that we should be cautious in our efforts at generalizations.

4.11 CHILDREN EVER BORN AND ECONOMIC ACTIVITY

Women's involvement in the labour force is generally considered an explanatory variable in fertility analysis. Women who work are expected to have fewer children than those who stay at home. Efforts at explaining this relationship have often led to circular arguments. Women may be at home because they have many children for whom to care. Women may have few children because they want to remain in the labour force or they may be in the labour force because they have only a few children. In this section we examine fertility in the context of the economic activities of the women in the twelve months preceding the censuses.

Women who were working in the twelve months preceding the censuses have lower cumulative fertility (children ever born) at all ages than those women who remained at home in the performance of home duties (Tables 21 and 22). This is true in 1970 and 1980/1 for Dominica and St. Lucia. The average overall differences between women who were working and those at home were 1.6 and 1.5 for Dominica and St. Lucia respectively in 1970; and 1.1 for Dominica in 1981 and 1.5 for St. Lucia in 1980. This seems to suggest that greater female involvement in the labour force would reduce children ever born by between 1.0 and 1.5 if labour force participation is indeed the independent variable. The differences are of more or less the same magnitude for women in the childbearing ages as for those who have completed their fertility.

Women who were seeking jobs and those who were outside the workforce form two heterogenous groups. In spite of the inclusion of many possible categories in these two groupings there is a problem of small subsample sizes. Generalizations based on these two categories of women are therefore risky. However, the women who are outside the labour force had fewer live births overall than those seeking a job. The women outside the labour force had lower fertility than those seeking a job if

TABLE 21

Dominica and St. Lucia 1970:
Average Number of Children Ever Born
by Main Activity and Present Age of the Women Age 15-64 Years and
Not Attending School

	DOMINICA				ST. LUCIA			
	MAIN ACTIVITY				MAIN ACTIVITY			
Present Age of Women	Worked	Seeking Jobs	Home Duties	Outside of the Work Force	Worked	Seeking Jobs	Home Duties	Outside of the Work Force
15-19	0.3	0.3	0.5	0.2	0.2	0.2	0.5	0.1
20-24	1.2	1.3	2.2	0.9[4]	1.1	1.2	2.2	1.0
25-29	2.8	2.8[3]	4.1	1.9[3]	2.5	2.2[4]	3.7	2.1[4]
30-34	4.2	3.4[2]	5.6	2.7[3]	3.7	4.5[4]	5.1	2.7[3]
35-39	5.1	5.9[2]	6.6	3.7[3]	4.6	4.1[3]	6.2	3.7[3]
40-44	5.2	4.4[2]	6.9	4.1[3]	4.8	4.6[3]	6.3	3.9[4]
45-49	4.7	4.8[1]	6.5	3.4[4]	4.5	3.2[2]	6.3	4.9[4]
50-54	4.5	2.8[1]	6.0	4.3[4]	4.4	3.3[3]	5.5	3.9[4]
55-59	4.2	4.7[1]	5.1	4.8	3.9	4.4[1]	5.2	4.6
60-64	4.4	2.8[1]	5.2	4.1	3.6	2.0[1]	5.0	4.2
Total[5]	3.1	0.9	4.7	2.8	2.8	1.1	4.3	2.3

1 Less than 10 women in these cells
2 Less than 25 women in these cells
3 Less than 50 women in these cells
4 Less than 100 women in these cells
5 May be misleading in comparisons among the categories if the age distributions are different, as they may.

Source: 1970 Population Census of the Commonwealth Caribbean Volume 8. Census Research Programme, University of the West Indies, Mona, Jamaica.

they were in the childbearing ages or had just left it and higher among older women. Overall those outside the labour force had more live births than those seeking jobs: 1.9 and 1.2 more for Dominica and St. Lucia respectively in 1970; and 2.2 and 2.6 respectively for Dominica and St. Lucia in 1981 and 1980 respectively.

In 1970 women who worked in the twelve months preceding the survey and those who stayed at home involved with home management had higher cumulative fertility in Dominica than in St. Lucia. By 1980/1 women in the age groups 25-29 to 35-39 were having fewer cumulative numbers of live births in Dominica than in St. Lucia. These are the two major groups and the turnaround in relative levels of fertility between the two societies seems to be associated with women in these two main activities groups.

TABLE 22

Dominica and St. Lucia 1980/1:
Average Number of Children Ever Born
by Main Activity in the Previous Year and Present Age of the Women

	DOMINICA 1981				ST. LUCIA 1980			
	MAIN ECONOMIC ACTIVITY				MAIN ECONOMIC ACTIVITY			
Present Age of Women	Worked	Seeking Jobs	Home Duties	Outside of the Work Force	Worked	Seeking Jobs	Home Duties	Outside of the Work Force
15-19	0.3	0.3	0.5	0.1	0.2	0.2	0.5	0.1
20-24	0.8	1.1	1.5	0.5	0.9	1.1	1.8	0.8
25-29	1.7	2.2[3]	2.9	1.3[4]	2.0	2.3	3.2	1.5[4]
30-34	2.9	3.7	4.1	1.9[3]	3.3	3.5	4.5	2.6[3]
35-39	4.1	3.8[4]	5.3	2.4[3]	4.5	4.3[4]	5.5	2.8[3]
40-44	5.3	6.1[3]	6.4	4.5[3]	5.3	5.1[4]	6.2	4.7[3]
45-49	5.7	5.5[3]	6.6	4.5[3]	5.6	5.1[3]	6.7	4.4[4]
50-54	5.6	5.6[3]	6.6	5.0[4]	5.3	4.2[3]	6.5	4.5
55-59	4.8	2.3[2]	5.7	4.3	4.9	7.0[2]	6.0	3.9
60-64	4.7	1.9[1]	5.7	4.0	4.5	1.7[2]	5.5	3.9
65+	4.0	1.8[2]	5.1	4.3	3.7	2.6[2]	5.0	4.4
All Ages	3.1	1.3	4.2	3.5	2.9	1.1	4.4	3.7

[1] Less than 10 women
[2] Less than 25 women
[3] Less than 50 women
[4] Less than 100 women

Source: 1980/1 Census of Population.

4.12 CHILDREN EVER BORN AND RACE

Assuming that there will be socio-cultural differences among the races which may influence fertility behaviour, we examine fertility in relationship to race in this section. However, the categories used are not entirely satisfactory. A good treatment of the relationship between race and fertility would require more homogenous categories than "blacks" and "mixed". The appropriate data are shown in Tables 23 and 24.

In 1970 for Dominica, the small Amerindian population have the highest to date fertility and they are followed at a distance by the black population which is followed closely by those of mixed racial origin. The black and mixed populations are perhaps not too different socio-culturally and this is reflected in their

TABLE 23

Dominica and St. Lucia 1970:
Average Number of Children Ever Born
by Race and Present Age of Women 15-64 years and not attending School

	DOMINICA			ST. LUCIA		
	RACE			RACE		
Present Age of Women	Blacks	Amerindians	Mixed	Blacks	East Indians	Mixed
15-19	0.4	0.5	0.3	0.3	0.2	0.3
20-24	1.6	2.3	1.3	1.6	1.6	1.3
25-29	3.6	3.7	3.2	3.2	3.5	3.2
30-34	5.0	5.6	4.3	4.6	5.2	4.5
35-39	6.1	7.2	5.5	5.6	6.2	5.0
40-44	6.0	8.5	6.5	5.7	6.7	5.6
45-49	5.6	9.0[1]	5.5	5.6	6.7	4.7
50-54	5.3	8.5[1]	4.9	5.0	5.9	4.2
55-59	4.8	7.2[1]	4.7	4.8	5.7	3.5
60-64	4.6	8.8[1]	5.5	4.5	7.6	3.0
All Ages (14 +)	3.7	5.1	3.6	3.5	4.3	2.9
No. of women	13014	303	2786	21619	929	1191

1 Less than 25 women in these cells.

Source: 1970 Population Census of the Commonwealth Caribbean Volume 8. Census Research Programme, University of the West Indies, Mona, Jamaica.

fertility. In 1970 in St. Lucia, the Blacks, Mixed and East Indians are virtually alike in cumulative fertility until age 30. At age 30 and above the East Indians outdistance the Blacks and Mixed with the former relatively higher in fertility than the latter. Socio-cultural differences are perhaps behind these differential fertility levels.

In 1981 the Amerindians and East Indians subsamples are small in number; requiring the exercise of caution in interpreting the data. In Dominica, the Amerindians are still the highest in fertility and the Blacks and Mixed are again not significantly different from each other. In St. Lucia in 1980, the East Indians, Blacks and Mixed are almost identical in fertility for women in the child-bearing ages. Among women who have completed their childbearing the East Indians

TABLE 24

Dominica (1981) and St. Lucia (1980):
Average Number of Children Ever Born
by Present Age and Race.

	DOMINICA 1981			ST. LUCIA 1980		
	RACE			RACE		
Present Age of Women	Blacks	Amerindians	Mixed	Blacks	East Indians	Mixed
15-19	0.4	0.4[3]	0.3	0.3	0.2	0.2
20-24	1.2	1.8[3]	1.1	1.3	1.2	1.2
25-29	2.3	3.6[3]	2.3	2.6	2.5	2.5
30-34	3.6	4.8[3]	3.4	4.0	3.7[4]	3.7
35-39	4.7	6.3[2]	5.0[4]	5.1	5.0[4]	4.7
40-44	6.0	8.0[3]	5.4	5.9	6.2[4]	5.8
45-49	6.3	8.5[2]	6.1	6.3	6.3[4]	6.1
50-54	6.1	9.5[2]	7.2	6.0	7.4[4]	5.9
55-59	5.3	6.5[2]	5.1	5.5	7.2[4]	5.8
60-64	5.1	10.8[2]	6.2[4]	5.0	6.4[4]	4.8
65 +	4.7	7.3[3]	4.7	4.7	5.9	4.1
14 +	3.5	5.3	3.5	3.4	4.0	3.2
No. of women	19177	294	1252	28275	1037	2797

[2] Less than 25 women
[3] Less than 50 women
[4] Less than 100 women

Source: 1980/1 Census of Population.

have had the highest levels of completed fertility and the Blacks are slightly higher than the Mixed. We can conclude that the East Indians and Amerindians are having higher fertility levels than the Blacks and Mixed which are not too dissimilar. Underlying these differences or lack of them are socio-cultural variations or lack of them, among the races.

In 1970 Dominica's Amerindians were having higher fertility than St. Lucia's East Indians. These two groups are very different from each other socio-culturally. The situation is the same in 1980/1. Amerindians have higher fertility than East Indians. The Amerindians are likely to be mainly rural and agricultural and crafts in occupation.

Blacks in Dominica between the ages 25 and 44 in 1970 had somewhat more live births than their counterparts in St. Lucia. At other ages the differences are insignificant. In 1980/1 black women under 40 in Dominica are having slightly less cumulative number of live births than similar St. Lucian women. These young blacks are effecting a turnaround in the relative positions of Dominica and St. Lucia with respect to fertility.

In 1970 racially mixed women 35 years of age and older in Dominica have higher numbers of live births than those similar women in St. Lucia. Among racially mixed women younger than 35 years, those in Dominica are similar to those in St. Lucia. By 1980/1 the differences among the racially mixed women of Dominica and St. Lucia have virtually disappeared. This is marking the turnaround in fertility underway between St. Lucia and Dominica.

There are racial differences with respect to fertility in Dominica and St. Lucia. These differences are likely related to socio-cultural variations among races. Fertility by races was higher in Dominica in 1970 but by 1980/1 a change around can be seen emerging in which St. Lucia's rate is higher. This is also seen in the period rates of fertility presented in earlier sections. However, the overall rates by racial groups still show Dominica's rates of 1981 higher than those of St. Lucia in 1980.

4.13 TEENAGE FERTILITY IN DOMINICA AND ST. LUCIA

This section examines very briefly teenage fertility in the two societies. Teenage fertility has implications for completed family size. All other things being equal the earlier in life is the initiation of childbearing the larger is the likely completed level of fertility. Teenage fertility and teenage pregnancy are of great social concern in the Caribbean. The general belief is that teenage pregnancy is high, and it is a disruptive force in the lives of these girls in that it prevents them from pursuing career goals. Births to teenage mothers have relatively high rates of infant and child mortality (Ebanks, 1984). Children born to teenage mothers are relatively disadvantaged in terms of parental care. There is growing concern about the problem of teenage pregnancy in the two societies under investiga-

tion. Using secondary sources and census data we examine as far as possible this phenomenon.

In the period 1976-80, it appears that teenagers were accounting for between 27 and 35 percents of all births in Dominica or an average of 30.5 percent over four years (Table 25). In St. Lucia for 1978 and 1979 teenage births accounted for about 27 percent of all births in each of those two years (Table 25). It would seem on the basis of this evidence that teenage births account for a larger percentage of all births in Dominica than St. Lucia.

TABLE 25

Births to Teenagers in Dominica (1976-80) and St. Lucia 1978-79

	DOMINICA			
	1976	1977	1978	1980
Births to Teenagers under 15	7	10	18	16
15-19	504	584	526	477
Total Births	1758	1719	1735	1819
Teenage births as a percentage of total	29.1	34.6	31.3	27.1

ST. LUCIA								
Year	Age of Teenagers					Total Teenage Deliveries	Total Deliveries	Teenage Deliveries as % of Total
1978	Under 15 years		Between 15 and 19 years					
	17		1097			1114	4140	26.9
1979	13	14	15	16	17-19			
	4	12	73	132	810	1031	3789	27.2

Source:

Paul T. Clipson - Adolescent Fertility in the English-Speaking Caribbean. A report prepared for the Regional Development Office/Caribbeam of the United States Agency for International Development, September, 1981.

The number of births to girls under 15 years of age is quite small in both St. Lucia and Dominica. It is the 15-19 age group that accounts for the majority of these births and from the distribution for St. Lucia one can see that the 17-19 subgroup is the major contributor to teenage fertility.

In Table 26 are presented census data for 1970 and 1980/1. This is a different dimension to that which appears in Table 25. Taking into consideration the problem of overestimation for this phenomenon using census data on fertility, there seems to be an increase in teenage fertility between 1970 and 1980 for St. Lucia and between 1970 and 1981 for Dominica. The 1981 Dominican and the 1980 St. Lucian figures show significant increases which are perhaps real since the census questions on fertility were the same in 1970 and 1980/1. Even so, the 18.2 percent for 14 year old girls in St. Lucia is likely out of line.

TABLE 26

Dominica and St. Lucia: Teenage Fertility:
Percentage of the Females under 20 years of age who have had one or more Live Births

	DOMINICA		ST. LUCIA	
Present Age	1970	1981	1970	1980
14	5.9	18.2	3.2	4.8
15-19	25.7	29.7	22.4	26.4

NB: These are overestimates since females who were full-time in schools were omitted from the fertility figures. Those that are not in school are more likely to have had a child than those who were in school.

Source: Censuses of Population 1970 and 1980/1

TABLE 27

Dominica and St. Lucia: Teenage Fertility: Percent of Females 14-19 years of age and not in school full-time with one or more live births.

CHARACTERISTICS	DOMINICA		ST. LUCIA	
	1970	1981	1970	1980
A: All 14 - 19	25.2	29.6	21.5	26.0
B: Education				
1. Primary or Less	27.0	31.1	22.4	28.0
2. Secondary and Higher	25.2	25.3	14.2	22.8
C: Present Marital Status				
1. Married	71.9[3]	66.7[2]	67.9	57.1[3]
2. Common Law	79.7	68.4	73.6	69.9
3. Visiting	99.7	87.5	100.0	94.6
D: Main Economic Activity				
1. Worked	21.8	24.2	16.4	21.9
2. Seeking First Jobs	13.4	21.8	11.4	16.0
3. Others seeking work	43.6[4]	33.3	22.9	39.4
4. Wanted Work and Available	41.5	33.2	41.9[3]	37.4
5. Home Duties	35.4	42.4	33.3	41.0
6. Other	16.1	24.2	17.8	30.1
E: Race				
1. Blacks	22.5	NA	21.2	NA
2. Amerindians	35.3[4]	NA	--	NA
3. East Indians	--	NA	18.8	NA
4. Mixed	22.0	NA	27.7	NA

- = No Women; 2 = Less than 25 women; 3 = Less than 50 women; 4 = Less than 100 women; NA = Not available at this time.

Sources: 1970 and 1980/1 Censuses of Population.

The changes between 1970 and 1980 in the percent of females 14-19 who were teenage mothers by three characteristics are given in Table 27. Increases are seen within the education categories, except for the secondary and higher in the case of Dominica. This expanding educational group in Dominica is perhaps a significant contributor to the turnaround seen in the period rates.

We now examine teenage fertility within the context of union status. Only those currently in one of the three union types are included in this section (Table 27). All three union types show declines in the percents of females who have had one or more live births. The increase therefore must be occurring among those females not currently in a union but were in the past. Turning next to teenage fertility with respect to economic activity, increases are seen within the numerically important categories of the 'Main Economic Activity' variable (Table 27). Women who worked and those who stayed at home as home managers increased their percentages with one or more live births between 1970 and 1980/1. This was also the case among females seeking their first jobs.

Extending this analysis to the educational achievement of the teenage mothers we find that the percentage of women with one or more live births is higher for those with primary education than for those with secondary education. Visiting unions because of the definitional problem mentioned earlier have very high percentages and are followed in turn by common law and married. Females at home doing their own domestic duties have high percentages of their members with one or more live births compared to those who worked in the twelve months preceding the censuses. In 1970 Blacks in Dominica had higher percentages than Mixed. In St. Lucia the Mixed had slightly higher percentages.

In general the percentages in the various categories with one or more live births for teenagers are higher for Dominica than St. Lucia. Teenage pregnancies are relatively more frequent in Dominica than in St. Lucia, but in both societies the levels are quite high. Delaying the age at which the first birth occurs will be an important step towards reduction in fertility in addition to its social and psychological payoffs. Efforts currently underway to reduce teenage pregnancies should be doubled if for no other reason than another step in the direction of reducing societal fertility and family size.

4.14 HIGH PARITY

This is a brief look at high cumulative fertility. That is, an examination of parity seven and higher women. The data are derived from the 1970 and 1980/1

censuses and are presented in Tables 28 and 29. The range for cumulative fertility is wide in these developing predominantly Roman Catholic societies. Taking more live births than six as very large, we turn our attention to women with high order births.

In Table 28, for women 40-64 years and sixty five years and older, we present the percentages who have had seven or more live births and those with ten or more. Dominican women 40-64 years old in 1970 were more likely to have had 7 or more live births than St. Lucian women (38.5% vs 36.5%). This difference narrows slightly by 1980 (St. Lucia) and 1981 (Dominica) to 42.9 vs 41.6%. For women of the same age (40-64), the percentage with ten or more live births is higher in Dominica than St. Lucia in 1970 but higher in St. Lucia in 1980 than Dominica in 1981. The Dominican percentage with ten or more live births declined between 1970 and 1981 while the St. Lucian percentage increased between 1970 and 1980.

Women 65 years and over in 1980/1 have had over 30 percent of their numbers with 7 or more live births in both St. Lucia and Dominica. About fourteen percent of these 65 years and over women in Dominica (1981) and over 15 percent in St. Lucia (1980) had had ten or more live births.

TABLE 28

Dominica (1970, 1981) and St. Lucia (1970, 1980):
Percent of Women with 7 and more and 10 and more live births

Age Groups	DOMINICA				ST. LUCIA			
	1970 Live Births		1981 Live Births		1970 Live Births		1980 Live Births	
	7+	10+	7+	10+	7+	10+	7+	10+
40 - 64	38.5	19.2	42.9	18.7	36.5	18.8	41.6	20.6
65+	NA	NA	30.8	14.1	NA	NA	31.4	15.3

Sources: 1970 and 1980/1 Censuses of Population.

High parity is a prominent feature of the women in Dominica and St. Lucia and even though average parity can be expected to decline with the declining fertility it would seem that up to 1980/1 there is no decrease. The tendency is towards an increase.

Women with primary education and those with secondary and higher education account for larger percentages of the high parity, women in Dominica than in St. Lucia. Those with less than primary education are greater contributors to high parity fertility in St. Lucia than in Dominica (Table 29).

Among high parity women, a higher proportion are married in Dominica than in St. Lucia, and the reverse is true among women in common law unions. Women in Visiting unions at these high ages are few and there is no set pattern of differences among them between St. Lucia and Dominica.

Dominican women who worked account for larger percentages of high parity women than the St. Lucian ones. St. Lucian women involved in home duties represent a larger percentage of high parity women than Dominican women.

Primary educated women and those with less than that level of education make greater contributions to high parity fertility than their numbers in the general population would warrant. Those women with secondary and higher education account for lower percentages of high parity women than would be expected based on their numbers in the populations.

Married women are over-represented among high parity women and common law and visiting women are under represented relative to their representations in the populations.

Women who were at home and occupied with the management of family affairs (home duties) are relatively over represented among high parity women in Dominica and St. Lucia.

Women in Dominica and St. Lucia with primary or less education, married and at home are much more likely to have 7 or more live births or 10 and more live births than women with secondary and higher education in a common law or visiting union and working in the 12 months preceding the census.

TABLE 29

Dominica and St. Lucia: High Parity Women, 1980/1:
Women with Seven or more live births, by Present Age Groups.
Percentage Distribution

CHARACTERISTICS	DOMINICA 1981			ST. LUCIA 1980		
Parity	7+	10+	All Women Age 15 +	7+	10+	All Women Age 15 +
	%	%	%	%	%	%
A. Education: Age 15+						
Less than Primary	8.8	10.6	5.2	25.6	31.4	11.9
Primary	85.9	84.0	78.6	73.3	67.9	72.4
Secondary and above	5.3	5.4	16.2	1.1	0.7	15.7
Age 40-64						
Less than Primary	6.3	7.8		27.0	30.2	
Primary	88.3	86.4		71.9	68.9	
Secondary and above	5.4	5.8		1.1	0.9	
Age 65+						
Less than Primary	19.5	19.0		40.1	42.3	
Primary	76.6	77.7		59.1	57.0	
Secondary and above	3.9	3.3		0.8	0.7	
B: Union Status: Age 15+						
Married	80.8	88.4	60.2	78.6	86.8	56.5
Common Law	16.3	9.9	24.9	19.0	12.2	30.9
Visiting	2.9	1.7	14.9	2.4	1.0	12.6
Age 40-64						
Married	82.6	87.0		84.3	87.8	
Common Law	14.7	11.0		14.9	11.6	
Visiting	2.7	2.0		0.8	0.6	
Age 65+						
Married	96.3	98.1		90.8	92.2	
Common Law	2.7	1.9		8.7	7.5	
Visiting	1.0	0.0		0.5	0.3	
C: Main Activity: Age 15+						
Worked	33.3	31.5	44.0	32.0	30.3	47.1
Home Duties	66.7	68.5	56.0	68.0	69.7	52.9
Age 40-64						
Worked	36.0	33.3		33.3	24.4	
Home Duties	64.0	66.7		66.7	75.6	
Age 65+						
Worked	21.3	23.2		17.3	15.8	
Home Duties	78.7	76.8		82.7	84.2	

Large numbers of women in Dominica and St. Lucia are having large numbers of live births and in spite of the relatively high infant and child mortality, they are having large families. Sample surveys results have implied that they are having more children than they would like. Family planning efforts should reduce the

number of women with large families as well as the size of these families. Reduction in births of orders five and higher would depress societal fertility considerably.

4.15 CHILDLESSNESS IN DOMINICA AND ST. LUCIA

The point has been made that period fertility rates in the English-speaking Caribbean has not been recorded at levels as high as those of other countries at similar levels of development. It has been suggested that one possible contributory factor is the high levels of childlessness which have been observed. In this section we will focus attention upon childlessness as may be seen through the use of census data. The analysis is for Dominica and St. Lucia based on the data of their two most recent censuses.

Table 30 presents the percentage of women who have not had a live birth. We begin with age 30, on the assumption that very few women 30 years of age and over will begin childbearing after that age. However, true childlessness can be looked at for women 45 years of age and over which is also shown in Table 30.

A higher percentage of women 30-34 are childless than those 35-39. However, it is possible that these 30-34 year old women will have percentages childless comparable to the percentages for 35-39 since some women among them may still initiate childbearing. The percentage childless among those 35-39 are the lowest shown in Table 30. With the probability of some of these still initiating childbearing later, it can be concluded that compared to older women the 35-39 age cohort have or will have the smallest proportion of childless women with the possible exception of those 30-34. The 30-34 women of 1970 can be seen as the 40-44 women in 1980/1. Their low percentages childless are obvious. The 35-39 cohort of 1970 can also be seen with its relative low percentage childless as age group 45-49 in 1980/1.

Overall, the percentage childless for each age group (Table 30) has declined over the period 1970 to 1980/1. Among women outside the childbearing ages (45 and above) the level of childlessness is quite substantial, ranging between 14.4 and 17.5 percents in 1970 for Dominica and 14.6 to 19.3 for St. Lucia. In 1980 St. Lucia's range in percentage childless for women 45 years of age and over is 9.9 to 17.2 and Dominica's in 1981 is 7.8 to 15.9. St. Lucia's percentage childless is

higher than that of Dominica for each age group at both points in time. The higher level of childlessness in the earlier period compared to the latter is perhaps a reflection of improvements in health and general well being and of sex ratio imbalances due to emigration, among other factors. The continuation of relatively high levels of childlessness are perhaps related to the same factors which are still not inconsequential in these societies.

TABLE 30

Dominica and St. Lucia: Childlessness by Present Age.
Percentage of women age 30-64 years who have not had a live birth.

	DOMINICA		ST. LUCIA	
Present Age	1970	1981	1970	1980
30 - 34	9.4	8.2	11.1	9.3
35 - 39	6.9	5.8	10.3	7.5
40 - 44	10.4	5.3	13.4	8.3
45 - 49	14.4	7.8	14.6	9.9
50 - 54	16.3	8.8	17.1	11.4
55 - 59	15.9	15.3	19.3	14.8
60 - 64	17.5	15.9	22.6	17.2
40 - 64	14.7	10.4	16.8	12.0
65 +	NA	17.8	NA	18.1

Source: 1970 and 1980/1 Censuses of Population.

TABLE 31

Dominica and St. Lucia.
Childlessness and Race. Percent of Women age 40-64 who have not had a live birth.

	DOMINICA		ST. LUCIA	
Race	1970	1981	1970	1980
Blacks	14.3	13.0	16.5	12.1
Amerindians	2.80	1.5	NA	NA
East Indians	NA	NA	7.7	6.7
Whites	65.4[1]	48.2[1]	36.5	16.7
Mixed	15.3	12.0	23.5	11.6

NA = Not Applicable. 1 = Base less than 100 women.

Source: 1970 and 1980/1 Censuses of Population.

For all racial groups the percentage childless has decreased between 1970 and 1980/1 (Table 31). The small white populations have the highest levels of childlessness. The mixed population had the second highest level, followed by the blacks in 1970 but in 1980/1 the percentage childless among the blacks is slightly higher than that for the mixed. Childlessness has declined in Dominica and St. Lucia between 1970 and 1980/1. In 1970 the percentages childless among blacks and mixed are higher for St. Lucia than Dominica but by 1980/1 St. Lucia and Dominica are almost identical. St. Lucia's percentages have shown dramatic declines.

In Table 32 we can see that the proportion of women childless is much higher for women with secondary and higher education than those with primary and less. St. Lucia's childlessness within the educational categories is higher than that of Dominica. The proportion of women childless has increased between 1970 and 1981 for women who have attained a secondary or higher level of education in Dominica and has decreased in the other categories in St. Lucia and Dominica.

TABLE 32

Dominica and St. Lucia: Childlessness by Education:
Percentage of women age 40-64 years who have not had a live birth.

	DOMINICA		ST. LUCIA	
Education	1970*	1981	1970	1980
Primary and less	12.8	9.5	15.9	11.4
Secondary and Higher	15.6	20.4	35.3	22.2

*0-6 years = Primary or Less, 7+ years = Secondary and higher
Source: 1970 and 1980/1 Population Censuses.

Married women and those in common law unions have levels of childlessness not too different from each other (Table 33). Most of the childless women were never in a union. The proportions of childless women in St. Lucia within the union status categories are higher than those of Dominica. Proportion of childlessness has decreased between 1970 and 1980/1 in the different union statuses. Few women are in visiting unions at ages 40 years and older. From Table 33 we can conclude that a very significant proportion of the childless women is accounted for by women who have never been in a sexual union.

The declining percentage of childlessness can be seen among the categories of main economic activity in the 12 months preceding the censuses. In all three categories the percentages childless declined between 1970 and 1980/1 for St. Lucia and Dominica (Table 34). Women who worked are slightly more likely to be childless than those involved in home duties. The retired and disabled are the most likely to be childless among the three groups. St. Lucia's percentage childless is higher than Dominica's at each census and for each main activity category.

Childlessness is an important factor in the levels of fertility in Dominica and St. Lucia. In 1970 the levels were quite high. These relatively high levels of childlessness have declined somewhat by 1980/1. The level of childlessness is higher in St. Lucia than in Dominica. Women who have never been in a union contribute a significant portion of this childlessness. It has been advanced by some researchers that secondary sterility arising from chronic veneral diseases may be a factor in the relative high levels of childlessness. Reductions in the incidence of veneral diseases and its detection and treatment may be playing a part

TABLE 33

Dominica and St. Lucia: Childlessness by Present Marital Status.
Percent of women in the age group 40-64 years who have not had a live birth.

	DOMINICA		ST. LUCIA	
Present Union Status	1970	1981	1970	1980
Married	10.5	6.8	11.5	8.2
Common Law (CL)	11.7	6.5	12.9	10.3
Visiting	0.0[1]	9.6	0.0[2]	2.3[2]
No longer living with husband	10.7	8.3	12.8	10.3
No longer living with common law partner	1.0	2.4	3.0	3.5
Never had husband or partner	44.7	31.6	45.1	37.8

1 Base less than 50 women; 2 Base less than 100 women
Source: 1970 and 1980/1 Censuses of Population.

in the reductions seen in childlessness between 1970 and 1980/1. Societal fertility in the Caribbean would likely be higher in the past as well as the present had it not been for such high proportions childless among women. The reduction in the proportion of women who were childless between 1970 and 1980/1 is in contradiction

to the declining trends in fertility. It is likely that a larger percentage of women are having one or more live births while the number of children per mother is declining and that the latter is having a greater impact on period fertility rates than the former. However, one must always entertain the possibility of recording errors being a factor. The likely emerging pattern is one of fewer childless women, fewer high order births resulting from the spacing of children and the termination of childbearing at or near the woman's desired number of children. The outcome of this is lower period fertility rates eventually manifesting itself in lower cohort rates such as completed family size.

TABLE 34

Dominica and St. Lucia: Childlessness by Main Economic Activity.
Percent of women in the age group 40-64 years who have not had a live birth.

	DOMINICA		ST. LUCIA	
Main Economic Activity	1970	1981	1970	1980
Worked	18.4	11.7	21.8	13.6
Home Duties	10.9	8.3	12.8	9.1
Retired/Disabled	19.5	19.0	24.5	22.8

Source: 1970 and 1980/1 Censuses of Population.

4.16 WOMEN NEVER IN A UNION AND/OR NEVER MARRIED

Women who have never been in a sexual union form a subgroup of the childless women of the previous section. Those who have never been in a union have never been exposed to the risk of childbearing and is a special group of women but should not be confused with women who have never been married. Some of the women who have never been married in these Caribbean societies may have had as much exposure to the risk of childbearing as women who have been married. These never married women include those women who have never been in a sexual union as well as those who have spent varying proportions of their childbearing periods in common law and/or visiting unions. Women in common law and/or visiting unions over at least some

parts of their reproductive period are exposed to childbearing. We have seen already that there are fertility differences by sex union types.

In this section we take a brief look at the percentages married, and ever in a union, for each five year age groups of women 15 years and older at the 1960, 1970 and 1980/1 censuses. This will provide us with an idea of an aspect of the dynamics of family formation in Dominica and St. Lucia and by implication its effects upon fertility. Fertility is not directly introduced into this section.

Table 35 provides the data for this analysis. It was not possible to locate the percentages never in a union in 1960 in St. Lucia. The percent never married will always be significantly smaller than the percent never in a sexual union because of the nature of family formation patterns in Dominica and St. Lucia. These two percents become closer in magnitude with increasing age since most women progress with time from visiting unions to common law and/or married and from common law to married. There are changes in the opposite direction also but the predominant trend is in the direction: visiting - common law - married.

The percents never married are very high at all ages at the three points in time for Dominica and St. Lucia. Even at age 65 and over close to 30 percent of the women are still unmarried in Dominica and over 30 percent in St. Lucia. In 1960 the percent of the women 40 years and over who have never been married are higher in St. Lucia than in Dominica. By 1970 the picture in less clear and in 1980 for St. Lucia and 1981 for Dominica, the percents never married in the five year age groups for women 40 and over, except one, are higher for Dominica than St. Lucia. A turnaround has taken place between Dominica and St. Lucia and this is likely to be related to the turnaround seen earlier in the period fertility rates.

The percent never married for the age groups under 55 years in Dominica increased over the period 1960-1981. The percents never married among women under age 50 in St. Lucia declined from 1960 to 1970 and increased from 1970 to 1980, but the percents declined for the five-year age groups fifty and over between 1960 and 1980.

The percent never married is relatively high in Dominica and St. Lucia. Close to a third of all women never marry in these two societies. In 1960 St. Lucia's

TABLE 35

Dominica and St. Lucia: Percent of the Female Population
15 years of age and over never married and never in a sexual union.

DOMINICA						
	Percent Never Married			Percent Never in a Sexual Union		
	1960	1970	1981	1960	1970	1981
15-19	98.5	98.8	99.6	84.0	79.0	65.1
20-24	86.9	88.6	91.8	46.0	48.7	47.8
25-29	68.9	69.8	73.7	29.5	25.9	30.3
30-34	53.4	56.2	57.9	24.0	20.8	20.4
35-39	47.0	45.2	51.6	24.2	16.9	16.3
40-44	36.8	37.7	46.7	20.8	14.5	15.4
45-49	35.4	38.8	38.5	24.1	17.8	14.2
50-54	30.8	31.8	36.6	21.2	14.1	14.1
55-59	33.0	31.9	35.3	26.8	15.8	19.7
60-64	33.4	29.7	31.6	27.4	14.3	17.3
65 +	29.1	NA	29.9	24.2	NA	19.5

Sources: Population Censuses 1960, 1970, 1980/1.

ST. LUCIA						
	Percent Never Married			Percent Never in a Sexual Union		
	1960	1970	1980	1960[1]	1970	1980
15-19	99.2	98.6	99.3		88.4	76.1
20-24	89.2	87.2	91.6		45.6	47.5
25-29	69.3	66.0	76.0		24.6	29.9
30-34	57.2	50.9	59.2		17.5	18.4
35-39	47.0	41.9	47.2		14.8	12.8
40-44	42.0	34.3	41.6		13.9	13.5
45-49	38.5	32.1	36.3		15.1	11.9
50-54	38.7	32.5	29.9		17.8	12.5
55-59	35.9	32.9	29.0		18.4	13.6
60-64	37.0	33.2	29.1		21.5	13.7
65 +	33.5	NA	31.4		NA	18.1

Source: Population Census, 1960 1970, 1980/1

NA = Not Available
1 = Not available also

rate of never married was higher than Dominica's and by 1980 for St. Lucia and 1981 for Dominica, the reverse is true. Since there is a relationship between union status and fertility, the percentage never marrying is likely playing a part in accounting for fertility differentials between the two societies.

In Table 35, the percent of women never in a sexual union is presented also. There is no set pattern of increase or decline for Dominica in the percent never in a union between 1960 and 1981. For St. Lucia between 1970 and 1980 the 3 five-year age groups between 20 and 34 had increases in the percentage never in a union and all other age groups had declines.

In the 15-19 age group in 1970 and 1980/1, and 50-64 age groups in 1970, St. Lucia's percentages never in a sexual union are higher than Dominica's. For all other age groups in 1970 and 1980, St. Lucia's percentage never in a sexual union is lower than Dominica's.

Very significant proportions of the women above the childbearing ages have never been in a sexual union or have been in visiting unions only but even then not in the year preceding the census. Between 14 and 20 percent of the women in the age groups 45 and over in 1981 in Dominica had never been in a union and for St. Lucia in 1980 the range is 12 to 18 percent. An increase in these percentages would have a negative effect on the level of fertility and a decrease the opposite effect. St. Lucia's percent never in a union is tending towards a decrease in 1980 over 1970. Dominica's picture is less clear between 1970 and 1981 but perhaps a slight tendency to increase is emerging among older cohorts. Comparing 1960 with 1981 for Dominica the clear pattern is one of a general decrease in the percent never in a union.

In Table 36 is presented summary measures of the above in the form of Singulate Mean Age at Marriage (SMAM) and Singulate Mean Age at Union Formation (SMAUF). The differences between the SMAMs for females and males in St. Lucia and Dominica are quite small. Singulate mean age at marriage for males are quite close for Dominica and St. Lucia and this is also true for females. The rates for males are about two years higher than those of females in both societies.

Singulate mean age at union formation (SMAUF) is available for females and are shown in Table 36. These have remained unchanged between 1960 and 1981 for Dominica and between 1970 and 1980 for St. Lucia. The rates for Dominica and St. Lucia are almost identical. The singulate mean age at union formation is around 22.5 years for Dominica and St. Lucia.

Women in Dominica and St. Lucia on the average enter a union about ten years before they get married. Union formation is early and marriage is late in these two societies.

4.17 AGE AT THE BIRTH OF THE FIRST CHILD AND AGE AT THE BIRTH OF THE LAST CHILD

The age at which the first birth takes place and that at which the last birth

TABLE 36

Dominica and St. Lucia: Singulate Mean Age at Marriage (SMAM) for Males and Females and Singulate Mean Age at Union Formation (SMAUF) for Females

	MALES			FEMALES		
	1960	1970	1980/1	1960	1970	1980/1
SMAM						
Dominica	34.2	34.4	35.8	31.9	32.0	33.7
St. Lucia	35.0	33.5	35.7	32.2	31.1	33.6
SMAUF						
Dominica	NA	NA	NA	22.5	22.5	22.3
St. Lucia	NA	NA	NA	NA	22.4	22.8

NA = Not Available
Sources: 1960, 1970 and 1980/1 Population Censuses.

SMAM = Singulate Mean Age at Marriage "is an estimate of the mean number of years lived by a cohort of women before their first marriage" (Shryock, and Siegal 1976).

SMAUF = The Singulate Mean Age at Union Formation is an estimate of the mean number of years lived by a cohort of women before their first entry into a sexual union.

occurs mark the effective childbearing span. All other things being equal, the younger the age at the birth of the first child and the higher the age at the birth of the last child the greater the possible number of live births born to the woman. In this section we look at these two life stages for women 35 years and over. Women who have not by age 35 had their first child are unlikely to have any. The same cannot be said with respect to the last child and for those women under age 49, the average ages at last birth and to a lesser extent the first birth are underestimates because of truncation. For first births it is safe to make comparisons for the age groups 45 and over and this is perhaps true for last births also.

Even though fertility is not directly introduced into this section this analysis has implications for fertility. Trends in the average ages at first and last births over time for age cohorts of women may suggest yet another possible factor in changes in fertility.

The presentation begins with the average ages at first and last births for five year age cohorts between 35 and 64 in St. Lucia and Dominica for 1970 and 1980/1 (Table 37). The mean age at first birth for St. Lucia declined between 1970 and 1980 for the five year age cohorts between age 35 and 64. In Dominica over the period 1970-81, it declined for the cohorts 35-49, showed no change for the 50-59 and declined for the 60-64. The declines for St. Lucia and Dominica are small but large changes are not expected or generally encountered in age at first births.

The average age at first birth is almost the same for Dominica and St. Lucia for the different age cohorts at the two points in time. That is, St. Lucia's levels are similar to those of Dominica in 1970 controlling for present age and the same is true in 1980 for St. Lucia compared to Dominica in 1981. The two societies experience similar average ages at the birth of the first child. The average age at first birth in St. Lucia and Dominica in 1970 is between 22 and 23 years for women 45 years of age and older and it is between 21 and 23 years in 1980/1. The bottom of the range has been lowered for the most recent period. These average ages for first birth are comparable to average ages at first marriage in developed societies. The initiation of childbearing in Dominica and St. Lucia, on the average is not as low as might have been guessed. It is possible the average age of first

birth has by 1970 increased to this level and has already been a factor in the relative low levels of fertility in these two countries as early as this date.

TABLE 37

Dominica and St. Lucia:
Mean Age of Mother at the births of the first and last live born children

Present Age of The Women	DOMINICA				ST. LUCIA			
	Mean Age At First Birth		Mean Age At Last Birth		Mean Age At First Birth		Mean Age At Last Birth	
	1970	1981	1970	1981	1970	1980	1970	1980
35-39	21.1	20.5	33.1[1]	30.4[1]	21.0	20.5	32.7[1]	31.4[1]
40-44	22.1	20.5	35.8[1]	33.0[1]	21.4	21.0	34.9[1]	33.7[1]
45-49	22.4	21.4	36.6[1]	35.4[1]	22.0	21.4	36.2[1]	35.9[1]
50-54	22.3	22.1	35.9	36.7	22.5	21.9	35.2	36.2
55-59	22.9	22.9	35.4	36.7	22.7	22.2	35.2	36.7
60-64	23.2	22.3	36.0	36.4	22.7	22.4	34.8	35.9
65 +	NA	23.1	NA	36.5	NA	23.0	NA	35.8

1 = Truncated, since childbearing is not completed, even though for 45-49 it virtually is.

Source: 1970 and 1980/1 Censuses of Population.

The average age of the mother at the birth of the last child can be seen in Table 37. For both St. Lucia and Dominica this average declined between 1970 and 1980/1 for women 35-49 and increased for women 50-64. For this latter group we have the actual average age at the birth of the last child and for both societies it has increased between 1970 and 1980/1. For the former group one must entertain the possibility of further childbearing and hence the probability of the effects of truncation. These differences are not large and their importance should not be exaggerated.

The mean age at the birth of the last child is similar for St. Lucia and Dominica. Controlling for present age we find that the average age at the birth of the last child in 1970 for women 45 and over ranges between 35 and 37 for Dominica and between 35 and 36 for St. Lucia. In 1980, the range for St. Lucia is 36 to 37 and for Dominica in 1981 it is between 35 and 37. Dominica's range remains the same in 1970 and 1981 and St. Lucia's increased at the limits by one year between 1970 and 1980.

The average number of years between the age at first birth and the age at last birth for Dominica and St. Lucia is close and ranges between 12 and 14 years in 1970 for women 35 years of age and older. In 1980/1 the range is 13 to 15 representing a shift of one year upwards.

The mean age at the birth of the first child is shown again in Table 38 along with present union status excluding visiting since there are too few cases for these high age groups. It becomes obvious at a glance that there is very little variation among categories of present union status when controls are included for present age. The differences are not significant statistically or in terms of possible influence on fertility. It is possible to conclude that differential fertility by union status is not a function of differential age at first birth by union status.

Earlier conclusions drawn concerning age at first birth based on Table 37 are applicable here controlling for present union status even though the pictures may not be as sharp, which is possibly due to reduced subsample sizes.

The average age at first birth is close to 22 in Dominica and St. Lucia for women 35 years of age and older in both 1970 and 1980/1 and for the four union statuses. The average age at first birth assumes a narrow range of between 20 and 23 years: figures which are generally associated with the average age of marriage in developed societies.

In order to complete the picture we present in Table 39 the mean age at the birth of the last child along with present age and union status. However only women 45 years of age and over are included here and therefore there is no truncation effect.

There is very little or no inter-age-cohort differences in the average age at the birth of the last child controlling for period of time and union status. Women between 45 - 49 and 60 - 64, in St. Lucia and Dominica have average ages at the birth of the last child which are not dissimilar from each other in 1970 and again in 1980/1 within the different categories of union status.

TABLE 38

Dominica and St. Lucia:
Mean Age of the birth of the first live born child by Present Age and Union Status

DOMINICA								
Union Status: Mean Age at First Birth								
Present Age	Married		Common Law		No longer in a Union		Never was in a Union	
	1970	1981	1970	1981	1970	1981	1970	1981
35-39	21.4	20.8	20.5	19.7	21.3	20.2	21.1	20.5
40-44	22.2	20.8	22.3	19.7	21.6	20.7	21.7	20.6
45-49	22.3	21.5	21.8	21.4	21.6	21.3	23.3	21.4
50-54	22.4	22.1	22.0[4]	21.8	22.2	22.2	22.4[4]	22.5
55-59	23.1	22.9	21.9[3]	22.1	23.4	22.6	23.9[4]	23.3
60-64	23.2	22.4	21.6[3]	20.8	22.8	22.2	25.4[4]	22.3
65 +	NA	23.0	NA	22.2	NA	23.0	NA	23.9

ST. LUCIA								
Union Status: Mean Age at First Birth								
	Married		Common Law		No longer in a Union		Never was in a Union	
	1970	1980	1970	1980	1970	1980	1970	1980
35-39	20.9	20.9	20.6	19.8	20.6	20.4	21.8	21.0
40-44	21.4	20.9	20.9	20.8	21.2	21.4	22.7	22.2
45-49	21.8	21.5	21.8	21.3	22.1	21.5	23.3	21.6
50-54	22.6	21.9	21.6	21.3	21.8	22.0	23.3	21.7
55-59	22.7	22.2	21.4	21.0	22.1	21.9	24.1	23.4
60-64	22.6	22.9	22.4[3]	21.1	22.4	22.1	23.4	24.4
65 +	NA	22.9	NA	22.6	NA	22.9	NA	23.8

NB: Visiting Union excluded for lack of sufficient number of women in these age groups.
"Never was in a Union" includes single and those formerly in visiting relationships.

NA = Not Available
3 = Less than 50 women
4 = Less than 100 women

Source: 1970 and 1980/1 Censuses of Population.

TABLE 39

Dominica and St. Lucia:
Mean Age of the birth of the last live born child by Present Age and Union Status

DOMINICA								
Union Status: Mean Age at Last Birth								
Present Age	Married		Common Law		No longer in a Union		Never was in a Union	
	1970	1981	1970	1981	1970	1981	1970	1981
45-49	38.3	35.7	36.9	36.3	31.6	34.6	33.7	33.4
50-54	37.1	37.5	34.1	38.2	33.4	35.5	31.9[4]	34.6
55-59	36.8	37.8	34.4[3]	38.6	33.9	35.3	29.7[4]	34.1
60-64	37.0	37.4	35.4[3]	32.8	35.0	35.9	33.3[4]	34.6
65 +	NA	38.0	NA	33.5	NA	36.1	NA	32.8

ST. LUCIA								
Union Status: Mean Age at Last Birth								
	Married		Common Law		No longer in a Union		Never was in a Union	
	1970	1980	1970	1980	1970	1980	1970	1980
45-49	37.2	36.8	35.6	35.0	34.4	35.1	33.2	33.9
50-54	36.1	37.4	34.9	34.7	34.4	35.5	32.4	33.0
55-59	36.1	37.9	32.6	35.0	35.1	36.3	33.0	33.9
60-64	36.4	37.5	35.2[3]	35.8	33.7	34.4	30.3	34.0
65 +	NA	37.3	NA	35.9	NA	35.6	NA	32.3

NB: Visiting Union excluded for lack of sufficient number of women in these age groups.
"Never was in a Union" includes single and those formerly in visiting relationships.

NA = Not Available
3 = Less than 50 women
4 = Less than 100 women

Source: 1970 and 1980/1 Censuses of Population.

Controlling for union status and age there is no clear pattern of increase or decline in the average age at the birth of the last child between 1970 and 1980/1 in Dominica and St. Lucia. There is also no clear pattern of differences between appropriate subgroups for St. Lucia and Dominica. There are no apparent patterns of differences among the union status categories controlling for age.

The age at the birth of the last child in Dominica and St. Lucia is between 36 and 38 years for married women in 1970 and between 33 and 37 for women in common law unions. In 1980/1 the range is still 36 to 38 for married women and 33 to 39 for common law. The range is quite stable for these union types between 1970 and 1980/1. The width of the range for married women among the age cohorts is 2 and it is 5 to 6 years for common law women. This differential in dispersion could be a factor in accounting for the differences in fertility by union types.

4.18 ILLEGITIMACY IN DOMINICA AND ST. LUCIA

Births occurring to women who are not in a legally sanctioned union are classified as illegitimate. We have already seen that there are two non-legal union types in Dominica and St. Lucia, namely, common law unions and visiting unions. Births to women in these two union types are classified as illegitimate. The parents of an illegitimate birth may eventually marry. The proportion of each order birth that is illegitimate decreases with the order of the birth. We have already seen that age at marriage is high and that among older women the proportion ever married is relatively high. The higher the proportion of all births to relatively young women the higher is the proportion illegitimate.

The illegitimacy rate for Dominica ranges between 62 and 79 percent between 1950 and 1980 with an overall tendency to be about 2/3 of all births. That is, about 2 out of every 3 births in Dominica are born to women who are not legally married. The data for St. Lucia do not cover such a wide time span. In 1970 in St. Lucia the illegitimacy rate was 73 percent of all births; in 1975, 77 percent; and in the 12 months preceding the 1980 census it was 79 percent. The upper and the lower limits of the range of illegitimacy for the two countries are likely very close to each other. The Dominican 1970 rate is also 73 and its 1975 rate is 70.

Had we data on both societies for the same times, it is likely that we would have found similar ranges in the proportions of all births that are illegitimate in Dominica and St. Lucia. Illegitimacy is very high in these two countries. It is high for the entire English-speaking Caribbean. This, however, is only in a legal sense, since the parents of many of these children eventually do get married.

Even though the overall illegitimacy rates are similar for St. Lucia and Dominica there are some inter-age-cohort differences among birth cohorts. In Table 40 we present the birth cohorts of the twelve months preceding the two most recent censuses covering parts of 1979 and 1980 in St. Lucia's case and 1980 and 1981 in Dominica's. Married women account for 1.6 percent to 54.8 percent of the births to the different 5-year age cohorts in Dominica and from 2.2 to 67.6 percent in St. Lucia. Common law unions are responsible for between 23 and 34 percents of the births in Dominica and between 22 and 39 percents in St. Lucia. Women in visiting unions had between 19 and 75 percents of the births in Dominica and between 10 and 77 percents in St. Lucia.

TABLE 40

Dominica and St. Lucia. Percentage of births in the twelve months preceding the census born to women in the three union types

Present Age	DOMINICA 1980/1			ST. LUCIA 1979-80		
	Married	Common Law	Visiting	Married	Common Law	Visiting
15 - 19	1.6	23.0	75.4	2.2	20.9	76.9
20 - 24	11.9	33.7	54.4	11.6	34.5	53.9
25 - 29	33.8	28.4	37.8	25.9	38.8	35.3
30 - 34	43.4	27.5	29.1	41.2	34.4	24.4
35 - 39	54.7	25.5	19.8	51.1	30.9	18.0
40 - 44	54.8	25.8	19.4	67.6	22.2	10.2
All ages	21.4	28.8	49.8	21.3	31.8	46.9

Source: Dominican Census of Population 1981 and St. Lucian Census of Population 1980.

It can be seen from Table 40, that as the age of the mother increases the proportion of all legitimate births also increases but even among women 40-44, only about 55 and 68 percents respectively for Dominica and St. Lucia are legitimate births. The proportion of all births born to women in visiting unions decreases rapidly with the age of the women. The proportions of all births to those in common law unions are dispersed less widely, never going below 20 percent or rising above 40. Overall in St. Lucia and Dominica visiting unions contribute the largest proportion of all births (approaching 50 percent) followed by common law unions (around 30%) and married unions with around 21 percent. Illegitimacy is very high in Dominica and St. Lucia, in the sense that large numbers of children are born into sexual unions, other than married. The parents of most of these children do eventually become married.

5.1 FAMILY PLANNING IN DOMINICA AND ST. LUCIA

In this section we move from our focus on components of population growth and size and examine family planning which is seen as one of the determinants of fertility change. Secondary sources provide the data to be used in this examination of the knowledge and use of contraceptives within the society. Unfortunately no direct link between fertility and family planning activities can be made because of the nature of the available data.

Earlier sections of this paper have concluded that fertility is on the decline in Dominica and St. Lucia. We have also looked for socio-cultural differentials in fertility with the aim of drawing inferences concerning the nature of the relationship between fertility and these socio-cultural variables. Now we examine a variable, namely family planning, through which the socio-cultural aspects of the societies are likely to impinge on fertility. Contraceptive use is one of the intermediate variables through which the social and cultural variables make their impacts on fertility and even though we cannot in this paper make the direct link between use/non-use of contraceptives and fertility changes, it is reasonable to infer it by an examination of family planning while bearing in mind the conclusions of our earlier analysis of fertility.

5.2 FAMILY PLANNING ACTIVITIES

Up to as late as about 1973 when a KAP survey was undertaken in Dominica there was no organized family planning programme on the island. The KAP survey results show a very favourable attitude towards family planning. This cleared the way in this very Roman Catholic country for a family planning programme which got underway in 1973. The programme is government sponsored and initially received support from PAHO/WHO and UNFPA. Support has also been received from IPPF, OXFAM and the British Ministry for Overseas Development. There is a Dominican Family Planning Association (DFPA) that is affiliated with IPPF/WHR through the Caribbean Family Planning Affiliation (CFPA). The Government of Dominica contributes resources and the family planning programme operates clinics attached to MCH centres and/or hospitals. The Dominican Family Planning Association carries out information and education programmes and the government delivers family planning services.

The St. Lucian Planned Parenthood Association (SLPPA) was inaugurated in May 1967 and it opened its first clinic in July of that year. It is affiliated with IPPF/WHR through the CFPA. It receives indirect government assistance. It operates family planning clinics and carries out information and education programmes. Its clinics are located in government health centres and/or hospitals.

St. Lucia's family planning activities got underway before those of Dominica. After a slow start the St. Lucian programme eventually gained a measure of momentum. Dominica's programme was late in starting but began with more force. Both programmes are fairly well established and fairly non-controversial and are playing vital roles in disseminating knowledge of contraceptives and assisting through their works the family planning efforts of these two societies. In reality both Dominica and St. Lucia have national family planning programmes in the sense that there are national coverages with both government and voluntary involvement. Both governments perceived the present levels of fertility as being too high and are taking steps to reduce them. The approach involving government and the voluntary sector participation seem to be working well.

5.3 CONTRACEPTIVE USE

Contraceptive use in Dominica and St. Lucia will be examined in this section by utilizing data from Contraceptive Prevalent Surveys (CPS) recently conducted. The original data are unavailable and use is confined to published information. This information is published in Contraceptive Prevalence Surveys: A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia, and St. Vincent by Barbados Family Planning Association, September 1983. The surveys were conducted in the countries in 1981-82 by Westinghouse and the results were written up by Jack Harewood of the Institute for Social and Economic Research of the University of the West Indies.

In Table 41 we find that contraceptive use is higher in Dominica than in St. Lucia. Greater percentages of women in Dominica than St. Lucia were current contraceptors at the time of the surveys. This higher level of contraceptive use in Dominica is very likely a factor in the differential levels of fertility between the two societies that were earlier documented.

TABLE 41

Dominica and St. Lucia: The Percentage of all Women, of Exposed Women, and of Potential Users who were Current Users of Contraception by Current Age of Respondent

Current Age	DOMINICA			ST. LUCIA		
	All Women	Exposed Women	Potential Contra-ceptors	All Women	Exposed Women	Potential Contra-ceptors
15 - 19	14.8	39.5	44.3	15.1	36.7	49.0
20 - 24	39.8	57.8	64.4	32.1	46.8	54.8
25 - 29	49.4	71.0	89.4	50.0	61.1	74.2
30 - 34	52.4	71.1	81.8	43.6	54.8	70.8
35 - 39	61.5	75.0	80.0	55.8	62.2	79.5
40 - 44	60.8	84.2	88.9	40.7	56.9	63.5
All ages	37.3	62.3	70.5	33.8	52.2	63.5

Source: Barbados Family Planning Association: Contraceptive Prevalence Surveys: A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia, and St. Vincent. Bridgetown, Barbados, 1983.

There is a clear tendency for current contraceptive use to increase with age. This level of use reaches as high as 89 percent for the age group 40-44 in Dominica among "potential contraceptors".[1] Since parity increases with age, we may conclude that women of high parity in Dominica and St. Lucia are more likely to be using contraceptives than those of low parity. However, even among young women contraceptive use is quite high.

In Table 42 is presented data on use of the different contraceptive methods. Among 'all women' as well as 'exposed women' in Dominica and St. Lucia the oral pill is the choice of the largest proportion of women and the second most popular contraception is female sterilization. In Dominica the third choice of women is yet another very effective method, namely "injection". In St. Lucia the third choice is the condom. The intra-uterine device (IUD) is fifth as a method in Dominica and seventh in St. Lucia. It is clear then that the women in Dominica and St. Lucia are using very effective contraceptive methods. Women in Dominica are more likely to be using an effective method of contraception than women in St. Lucia.

TABLE 42

Dominica and St. Lucia: The Percentage of all Women and of Exposed Women in the Survey who were using each Contraceptive Method at the time of the Survey

	DOMINICA		ST. LUCIA	
Method	All Women	Exposed Women	All Women	Exposed Women
Pill	12.1	20.2	16.9	26.1
Female Sterilization	10.9	18.2	8.8	13.6
Condom	2.9	4.8	3.2	4.9
Injection	6.7	11.2	1.8	2.8
IUD	1.5	2.5	0.8	1.2
Rhythm	0.8	1.3	0.6	0.9
Withdrawal	0.6	1.0	1.1	1.7
Vaginal Methods	0.5	0.8	0.9	1.4

Source: Barbados Family Planning Association: Contraceptive Prevalence Surveys: A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia, and St. Vincent. Bridgetown, Barbadso, 1983.

[1] "Potential contraceptors" are defined as women currently exposed to the risk of pregnancy and who do not want to become pregnant at the time.

The four most popular contraceptive methods are given in Tables 43 and 44 along with some background characteristics of the women. The oral pill is very popular with women in the 25-29 age group in both St. Lucia and Dominica but much more so in the latter. In general women in the middle of the childbearing ages seem to have a strong preference for the oral contraceptive pill. The injection seems to appeal more to the women towards the end of the childbearing period.

The condom is used by a small percentage of women in all age groups. The variation across the age groups is more even than for the three other methods.

Female sterilization is a method used mainly by women over the age of thirty. This is a method used exclusively for the cessation of childbearing and hence its popularity among older women who are likely to have had all the children they desire and have by adopting this as a method taken steps to terminate childbearing.

In Dominica, women with 'low' education are more likely to be using three of the four methods of contraception shown in Table 43 than those with 'high' education. There is only one exception, that is the condom where those with high education are greater users than those with low. In St. Lucia the low education group is more likely to be using the pill and female sterilization, than those with high education. Ever users in St. Lucia with high education are more likely to be using the injection and the condom than those with low education.

Women who worked in the past years are more likely than those who did not, to have been an ever user of the oral pill as well as a current user in Dominica and St. Lucia. Those who worked are also more likely to have been an ever user of the condom than those who did not work.

When there is only one female in the household in the childbearing ages, she is more likely to be an ever user of the pill in Dominica than if the respondent lives in a household with two or more females in the reproductive age span. A similar situation exists for current users of the pill, and ever and current users of injection as well as ever users of the condom. It would seem that there is a tendency for those women who are the only ones in the household in the childbearing age span to be greater users of contraceptives than those where there are two or more females in the household in the reproductive ages. Controlling for age may

TABLE 43

Dominica: The percentage of all women and of exposed who were using each contraceptive method at the time of the survey by selected background characteristics of the respondents

	All Women							Exposed Women			
	Pill		Injection		Condom		F.S.	Pill	Inj.	Cond.	F.S.
	E.U.	C.U.	E.U.	C.U.	E.U.	C.U.	C.U.	C.U.	C.U.	C.U.	C.U.
All Ages	38.2	12.1	12.9	6.7	19.3	2.9	10.9	20.2	11.2	4.8	18.2
15-19	15.4	6.1	5.8	3.6	10.7	3.1	0.3	16.4	9.7	8.2	0.8
20-24	48.2	19.9	16.6	8.3	27.4	4.4	0.4	28.9	12.1	6.4	0.6
25-29	71.4	22.5	29.2	12.4	31.8	3.1	4.5	32.8	17.9	4.5	6.4
30-34	55.3	6.6	16.5	10.2	25.3	2.8	22.7	8.9	13.8	3.8	30.7
35-39	35.8	11.0	5.1	3.7	12.9	0.0	44.9	13.4	4.5	0.0	54.7
40-44	22.7	2.5	9.8	2.5	6.5	0.0	53.0	3.4	3.5	0.0	73.4
B. Education											
Low	40.9	12.2	14.9	7.3	17.9	2.4	13.9				
High	30.0	11.8	6.9	4.9	23.5	4.4	1.6				
Worked in Past Years?											
Yes	43.7	12.9	12.2	6.1	25.1	3.2	11.0				
No	34.4	11.5	13.4	7.1	15.1	2.7	10.9				
Number of Eligible Females in the household											
One	50.0	14.1	17.5	8.5	23.1	2.5	11.9				
Two	30.5	9.6	11.3	6.3	18.5	3.6	10.6				
Three	28.8	11.1	5.5	2.5	17.8	3.7	8.0				
Four +	22.3	12.4	3.0	6.8	5.6	1.1	12.2				

"E.U." = Ever Used "C.U." = Currently Using "F.S." = Female Sterilization

Source: Barbados Family Planning Association: Contraceptive Prevalence Surveys. A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia and St. Vincent. Bridgetown, Barbados, 1983.

TABLE 44

St. Lucia: The percentage of all women and of exposed who were using each contraceptive method at the time of the survey by selected background characteristics of the respondents

	All Women							Exposed Women			
	Pill		Injection		Condom		F.S.	Pill	Inj.	Cond.	F.S.
	E.U.	C.U.	E.U.	C.U.	E.U.	C.U.	C.U.	C.U.	C.U.	C.U.	C.U.
All Ages	38.8	16.9	14.7	1.8	13.1	3.2	8.8	26.1	2.9	5.4	13.7
15-19	15.8	9.7	3.9	0.6	9.7	3.2	0.0	23.4	1.6	7.8	0.0
20-24	45.3	22.1	11.2	2.3	18.5	5.6	0.4	32.2	3.5	8.2	0.6
25-29	61.6	30.5	18.9	2.1	15.9	2.9	7.2	37.2	2.7	3.5	8.8
30-34	53.1	17.0	31.7	2.4	10.3	2.6	18.0	21.5	3.2	3.2	22.6
35-39	48.9	15.4	25.0	2.7	12.5	1.9	32.2	18.8	3.5	2.4	40.0
40-44	34.5	7.5	21.1	2.3	9.9	2.9	27.1	10.3	3.4	3.4	37.9
B. Education											
Low	42.7	17.2	1.4	2.2	11.8	2.6	11.6				
High	27.8	16.1	4.2	0.8	16.8	5.0	1.2				
Worked in Past Years?											
Yes	44.5	23.2	14.1	0.7	15.8	3.7	6.9				
No	35.1	12.7	15.2	2.5	11.7	2.9	10.1				

"E.U." = Ever Used "C.U." = Currently Using "F.S." = Female Sterilization

Source: Barbados Family Planning Association: Contraceptive Prevalence Surveys. A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia and St. Vincent. Bridgetown, Barbados, 1983.

have shed some light on this unexpected finding but the sample size would dictate against this.

If in Tables 43 and 44 one compares ever users with current users, it is possible to get an idea of drop out from the pill, the condom and injection. The injection has been available for less time than the other two methods and this will largely account for its lower dropout rates. The dropout rates for the pill are very high and those for the condom are even higher. Overall in Dominica and St. Lucia, as elsewhere, dropout rates from methods of contraception as well as from contraceptive use are very high. Some of these dropouts are likely resorting to female sterilization changing to other methods, or they are for a variety of reasons no longer in need of contraception.

It can be seen that the dropout rates from the pill are higher in Dominica than in St. Lucia. The dropout rates from the injection are higher in St. Lucia than in Dominica. The condom dropout rates are high in both societies.

Contraceptive use is prevalent in Dominica and St. Lucia. The use of highly effective methods is higher in Dominica than St. Lucia. The dropout rates of the methods are high. Female sterilization is popular. There is reason to believe that contraceptive use is an important factor in fertility declines underway in Dominica and St. Lucia.

5.4 CONTRACEPTIVE KNOWLEDGE

Contraceptive knowledge is widespread in Dominica and St. Lucia, as it is throughout the Caribbean. The family planning programmes with their mass media campaigns have disseminated information on contraceptive methods. The information and education programmes of the planned parenthood associations in the islands have been effective in raising consciousness and awareness to the population issues and the role of unplanned childbearing in population problems. Through these programmes knowledge of contraceptive methods have been spread and motivation for contraceptive use raised.

Over 90 percent of the female population in Dominica and St. Lucia knew of at least one contraceptive method (Table 45). The percents in the age groups range

from 78 for those 15-19 to 99 for those 25-29 in Dominica and from 82 for the 15-19 age group to 98 for the 30-34 in St. Lucia. But this is knowledge of at least one method and the depth of this knowledge has not been ascertained. I spite of this apparent high level of knowledge there is undoubtedly much more educating and informing to be done. Deepening and widening the knowledge on contraception and family planning issues will pay-off in more adoption and sustained use of contraceptives.

TABLE 45

Dominica and St. Lucia:
Percentage of Women having knowledge of at least one Method of Contraception by Age

	DOMINICA		ST. LUCIA	
	Knowledge of at least one method	Number of Women	Knowledge of at least one method	Number of Women
15-19	78.3	355	81.9	310
20-24	97.1	245	97.2	250
25-29	98.7	159	97.8	138
30-34	98.1	105	98.3	119
35-39	94.9	78	93.2	103
40-44	92.0	75	95.9	67
All Ages	90.4	1017	92.1	987

Source: Barbados Family Planning Association: Contraceptive Prevalance Surveys: A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia, and St. Vincent. Bridgetown, Barbados, 1983.

In Table 46, the percentage of all women who knew of the different contraceptives are presented. Knowledge of the pill is widespread and higher in St. Lucia than in Dominica. The pill is the best known method in both societies. The injection is also well known and again more so in St. Lucia than Dominica. Other well known methods are the condom, female sterilization and IUD. As would be expected, knowledge and use seem to be associated with each other.

TABLE 46

Dominica and St. Lucia: The Percentage of Women in the Survey who knew each Contraceptive Method (with or without prompting).

	DOMINICA	ST. LUCIA
Pill	86.1	90.5
Injection	76.1	81.8
Female Sterilization	64.6	68.0
Condom	75.9	63.2
IUD	66.5	50.8
Vaginal Methods	36.9	43.4
Withdrawal	36.5	35.1
Rhythm	25.3	30.9
Male Sterilization	28.0	23.4
Induced Abortion	31.8	34.2

Source: Barbados Family Planning Association: Contraceptive Prevalence Surveys: A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia, and St. Vincent. Bridgetown, Barbadso, 1983.

Some methods are better known in Dominica (Condom, IUD) and some better known in St. Lucia (Pill, Injection, Female Sterilization). In general however, the efficient contraceptive methods are well known among women in the childbearing ages in the two countries.

The five best known methods of Table 46 are shown in Table 47 in the context of selected background variables. The 15-19 age group is the least knowledgeable of all on all methods except the condom. In the case of the condom the least knowledgeable age group is the 40-44 one. The pill is best known among women 20-34 as is the Injection. Female sterilization is best known among the older age cohorts in the childbearing ages.

The Pill is know almost equally by women with low and high levels of education and this is true for the injection, female sterilization and IUD in Dominica, and female sterilization in St. Lucia. Women with higher levels of education know of

the condom to a larger extent than those with low levels of education. The pattern of knowledge of methods associated with education is possibly related to the grossness of the education breakdown into only two categories. With a more elaborate

TABLE 47

Dominica and St. Lucia: The Percentage of Women in the Survey who knew each Contraceptive Method (with or without prompting) by Selected Background Variables.

Characteristics	Pill	Injection	Female Sterilization	Condom	IUD	Pill	Injection	Female Sterilization	Condom	IUD
All Ages	86.1	76.1	64.6	75.9	66.5	90.1	81.1	68.0	62.8	50.8
A. Age										
15-19	72.1	59.4	40.8	63.7	46.2	79.3	63.5	47.8	56.7	31.3
20-24	96.8	90.0	65.7	89.4	75.6	97.3	91.2	71.8	70.7	58.3
25-29	98.1	91.8	83.7	71.6	83.8	97.6	94.6	83.4	71.8	45.4
30-34	96.3	90.5	82.5	86.3	87.4	96.3	93.8	75.0	64.1	60.8
35-39	80.6	65.6	84.7	60.5	57.7	89.2	82.6	80.1	60.6	53.1
40-44	83.1	65.8	84.7	59.6	75.8	92.7	81.7	81.4	51.8	54.1
B. Education										
Lower	85.8	76.4	64.6	74.0	66.2	90.6	82.8	67.6	58.7	48.7
Higher	87.0	75.1	64.4	81.0	67.4	91.2	78.7	69.0	75.9	56.9
C. Worked in past year										
Yes	93.1	81.5	70.9	83.7	75.5	94.5	89.6	73.3	71.1	60.7
No	81.2	72.3	60.1	70.5	60.3	87.1	76.4	64.4	57.7	44.2

Source: Barbados Family Planning Association: Contraceptive Prevalence Surveys: A Comparative Study of Contraceptive Prevalence in Antigua, Dominica, St. Lucia, and St. Vincent. Bridgetown, Barbadso, 1983.

measure of education one would perhaps find that the higher the level of education the greater the contraceptive knowledge even specific for method.

Women who worked in the past year were more knowledgeable of the different contraceptive methods than those who did not work. St. Lucian women (work, did not work) are more knowledgeable of the condom and IUD.

There is differential knowledge of contraceptive methods within the distributions of variables such as age, education and worked in the past year and on these variables across the two societies. Knowledge of contraceptives is widespread but

some methods are better known than others. The more efficient contraceptives are the most widely known except the vasectomy. The extent of the knowledge is unascertained. It is our opinion that it is superficial. There is much more to be done in order to ensure that all methods of contraception are well known so that choice of one over another is based on an objective evaluation.

5.5 SUMMARY

Current contraceptive use is greater in Dominica than in St. Lucia and in both societies it increases with the age of the women in the childbearing ages.

The oral contraceptive pill is the most widely used followed by female sterilization, the injection in Dominica, and the condom in St. Lucia. The IUD is the fifth method of use in Dominica and the seventh in St. Lucia. Women in Dominica are more likely to be using an efficient contraceptive method than women in St. Lucia.

Women in the middle reproductive years prefer the use of the oral pill and the injection and female sterilization are more favoured by women in the later years of the childbearing period. Women with low education compared to those with high prefer the pill. Women who worked in the year before the surveys are more likely to be pill users than those who did not.

Dropout rates are very high for the pill and the condom. The rates for the condom are much higher than those for the pill. The dropout rates for the injection are lower than those for the pill and the condom but are likely related to the relatively short period of time since it was made available as a contraception.

Over 90 percent of the women in Dominica and St. Lucia knew of at least one contraceptive method. The intensity of this knowledge is unmeasured, but at least they have heard of a method.

The oral pill is the most often mentioned contraceptive. The injection, condom, female sterilization and IUD are also very well known. The efficient contraceptive methods, except the vasectomy, are all well known.

The 15-19 year old women are the least knowledgeable about the contraceptive methods except the condom where it is the 40-44 year olds who are least knowledgeable. Among women 20-34 years of age, the pill and injection are well known. The

female sterilization is very well known among the older age cohorts in the child-bearing years.

Education when divided into low and high is not sensitive as an explanatory factor for contraceptive knowledge. Women who worked in the year preceding the surveys are more knowledgeable about the methods of contraception than those who did not work.

Much has been accomplished in diffusing knowledge and use of contraception in Dominica and St. Lucia. There is a great deal yet to be accomplished. Fertility has been falling but still has a far way to go before attaining the levels desired by families and governments.

The effective use of efficient contraceptive methods has the major part to play in the future reductions in fertility in Dominica and St. Lucia. Effective family planning programmes with national coverages are necessary to assure that information and services are available. The levels of development in these two societies are not sufficiently advanced to ensure fertility reductions without public family planning programmes.

6.1 SUMMARY AND CONCLUSIONS

This section provides a summary and presents some conclusions. The summary will provide the highlights of the earlier sections and the conclusions will be made based upon the findings.

This paper is basically descriptive in nature. The aim was to bring together available data from diverse sources to provide a demographic picture of mortality, fertility and family planning for the islands of Dominica and St. Lucia. This was attempted in a comparative framework. Much more data were available for St. Lucia than for Dominica but since comparison was an aim, in general we presented information that were available for both countries. Government sources (vital registration and census) provided the bulk of the data. Secondary sources supplied the remainder. Many rates and measures were calculated based on the available data.

The lack of data, the validity and reliability of data, and the absence of access to computing facilities have severely handicapped this undertaking. Census

data on fertility were instrumental in providing a more extensive examination of it than was possible in the case of mortality and family planning.

Migration is not a part of this study, not because of its unimportance as a determinant of population dynamics but because of its data deficiencies, its treatment in other studies, and its exclusion by CELADE from this study area. The other two determinants of the size, rate of growth, and composition of the population, namely mortality and fertility are treated. Family Planning is examined for its determinants and its implications for fertility.

A major aim of the project was to focus on the socio-economic correlates of mortality, fertility and family planning. This has been done as far as was possible but its incompleteness is obvious. Data limitations severely restricted this aspect. Mortality and family planning have suffered much more than fertility in this respect.

6.2 GENERAL OVERVIEW

Dominica and St. Lucia are two recently independent countries located among the Windward Islands in the Caribbean area. Dominica is larger in land area than St. Lucia but St. Lucia's population is larger. Currently Dominica's population is approaching 80,000 and St. Lucia is about 125,000.

St. Lucia's rate of population growth between 1950 and 1980 was greater than Dominica's between 1950 and 1981. St. Lucia's population is currently growing faster than that of Dominica.

Between 1950 and 1961 the rate of natural increase in Dominica was higher than in St. Lucia. From 1962 to the present, St. Lucia's rate of natural increase is higher than Dominica's. Even though the rates of natural increase have declined in the two societies, they are still relatively high. At its current rate of natural increase St. Lucia's population will double in 30 years and Dominica's in 40 years.

The rates of growth in the two populations since 1950 have been considerably lower than the rates of natural increase, since these islands have experienced net migration losses. Like the rates of natural increase, the rates of growth have changed around. Dominica's growth rate between 1946 and 1960 was higher than St.

Lucia's. Between 1960 and 1970 the two rates of growth are quite similar in magnitude. Over the period 1970 to 1980 for St. Lucia and 1970 to 1981 for Dominica, St. Lucia's growth rate was almost double that of Dominica.

The average age for Dominica and St. Lucia were quite near to each other in 1960 and 1970 and showing basically young populations resulting from high fertility. By 1980 for St. Lucia and 1981 for Dominica the average age for Dominica is higher than that for St. Lucia showing lower fertility for Dominica and/or differences in volume and/or age composition of emigrants, but still two young populations. The average age decreased between 1960 and 1970 in Dominica and St. Lucia because of rising fertility in the period. It increased between 1970 and 1980/1 in response to falling fertility. In 1980, a larger proportion of the St. Lucian population is in the under 10 years age group than is the case in Dominica in 1981.

International migration has been an important contributor to the relative low rates of population growth in Dominica and St. Lucia. Net migration losses have been large. Guengant (1984) estimated the net losses between 1950 and 1980 for St. Lucia to be 50,000 and Dominica to be 28,000. These figures represent 57.5 and 54.9 percents of the natural increase for St. Lucia and Dominica respectively over the period 1950-80. These net losses through migration amount to 64 percent of St. Lucia's 1950 population and 43.5 percent of its 1980 population and for Dominica the corresponding figures are 55 percent of the 1950 population and 38 percent of the 1980 population. The main destinations for these emigrants have been the United Kingdom, the United States of America, Canada and the neighbouring Caribbean islands.

The demographic effects of emigration can also be seen on the age-sex composition of the origin countries since migration is generally age and sex selective (Bouvier 1984(a) and (b)). In this way net migration losses also depress fertility. Figures from vital registration in the French West Indies show that in 1981 and 1982, 784 births occurred to Dominican mothers in Guadeloupe, Martinique and French Guiana (Table 48). In those same two years the corresponding figures for St. Lucia are 118 and 114. Since the French West Indies are only some of several destinations we can envision how many more births would have been occurring in St. Lucia and Dominica had there been no net migration losses.

TABLE 48

Births in the French West Indies to Dominican and St. Lucian Women Living there in 1981 and 1982

	COUNTRIES OF ORIGIN			
French West Indies	Dominica		St. Lucia	
	No. of births		No. of births	
Year	1981	1982	1981	1982
Guadeloupe	351	381	15	18
Martinique	13	12	68	64
French Guiana	9	18	35	32
Total	373	411	118	114

Source: Institut National de la Statistique et des Etudes Economiques (1984) ETAT Civil, Service Department de le Guadeloupe, Basse-Terre, Guadeloupe.

In Table 49 we can see that nearly 60 percent of the births that occurred in Guadeloupe to Dominican mothers were born to women under age 25. Like those who remained at home, Dominican women residing in Guadeloupe concentrate their childbearing mainly in the 15-29 age group. Ninety percent of the births to these Dominican women born in Guadeloupe were born to unmarried women. This is higher than in Dominica and is a reflection on the relatively young age of the mothers at the births of the children in Guadeloupe. English-speaking Caribbean countries have relatively low age at the initiation of childbearing but high age at marriage.

There seems to be little doubt that emigration has played a significant role in holding down the rate of growth of the population, the size of the labour force, the level of unemployment, and fertility and hence natural increase. St. Lucia and Dominica would be demographically different places today had it not been for their heavy net losses to emigration.

6.3 MORTALITY

Mortality has been declining in Dominica and St. Lucia in the Post World War II period. Mortality levels are now quite low in these two societies. The 1984 World

TABLE 49

Births that occurred to Dominican Women in Guadeloupe in 1981 and 1982 by Age of the Mother at Birth of the Child (Percentage Distribution)

Age of Mother	1981	1982
< 15	0.6	0.0
15 - 19	20.2	19.4
20 - 24	40.5	39.4
25 - 29	24.8	28.1
30 - 34	11.4	8.7
35 - 39	1.4	4.2
40 - 44	1.1	0.2
Total %	100.0	100.0
Total Births	351	381
Percent Illegitimate	91.2	89.2

Source: Institut National de la Statistique et des Etudes Economiques (1984) ETAT-Civil, Service Department de la Guadeloupe, Basse-Terre, Guadeloupe

Population Data Sheet of the Population Reference Bureau gave Dominica's crude death rate as 5 per thousand and St. Lucia's as 7 per thousand. This same source shows an infant mortality rate of 12.6 per 1000 live births for Dominica and 23 for St. Lucia. The life expectancies at birth as reported by the Data Sheet is not in line with the infant mortality rates, since St. Lucia's 70 is higher than Dominica's 65. Government figures put Dominica's life expectancy at around 71 and St. Lucia's at 70.

Over the period 1950 to 1971, Dominica's crude death rate was higher than that of St. Lucia. Between 1972 and 1982 the crude death rate of Dominica is less than that of St. Lucia. The turnaround in the crude death rate occurred between 1971 and 1972. Dominica had a decline of 70 percent in its crude death rate between 1950 and 1982 while St. Lucia's was only 59 percent. The period 1950-59 saw the most dramatic declines in the crude death rates of the two societies, followed by the period 1960-69, and the most recent period 1970-1982 saw a slow down in the rate of decline.

The crude death rate is as low as it is likely to get in Dominica. Further declines in the infant mortality rate of St. Lucia will allow it to eventually approximate the current low crude death rate of Dominica.

Infant mortality was higher in Dominica than in St. Lucia over the period 1950 to 1966 and over the period 1967 to 1982 St. Lucia's infant mortality rates have been above the levels of Dominica. The turnaround in the infant mortality rate occurred five years earlier than it did in the case of the crude death rate. Since 1980 St. Lucia's infant mortality rate has been approximately twice that of Dominica which leads one to question the validity of the rate for Dominica. Between 1950 and 1982 Dominica's infant mortality rate declined by 92 percent and that of St. Lucia by 80 percent. Dominica's infant mortality rate declined gradually but significantly from 1950 until 1961 and then it fell rapidly until 1971. There have been further fairly rapid declines in the interval 1972 to 1982 when it fell by 69 percent. St. Lucia's infant mortality rate fluctuated downward between 1950 and 1962; and the unstable pattern, but one of general decline at a reduced rate, occurred between 1963 and 1982. Both St. Lucia's and Dominica's infant mortality rates are showing tendencies to stabilize. Dominica's is fluctuating at around 10, which is too low to be taken seriously; and St. Lucia's at approximately twice the level of Dominica, that is in the low 20's.

General overall improvements in the quality of life, including improvements in nutritional level, maternal and child care, public health, education of women and delivery of medical services will be needed to set St. Lucia's infant mortality rate once more on its downward path. When the infant mortality has declined by another 10 points, the crude death rate will decline and approaches that shown for Dominica and the life expectancy at birth will approximate that reported for Dominica as well.

The expected J-shape relationship between mortality and age has been seen for Dominica and St. Lucia. Mortality is relatively high between ages 0 and 4, relatively low between 5 and 44, and then rises steeply with age from 45 years.

Male mortality is greater than female mortality among children under age 10 years. In 1960 female mortality was higher than that of male for Dominica for the

age group 10-34 and for St. Lucia for the age group 15-29. This perhaps is a reflection of elevated maternal mortality rates at this period in time. In 1960 where these differences exist in male-female mortality levels they are small. Sex differences in mortality rates, however, increase in magnitude with increases in age.

Data are not available for Dominica in 1970 and 1980, but St. Lucia's age-sex specific mortality rates are higher for males than for females. There is every reason to believe that the same is true for Dominica.

Child mortality is very low in St. Lucia and likely lower in Dominica since the infant mortality portion is lower in Dominica than in St. Lucia.

Since 1960 there have been declines in deaths due to infective and parasitic diseases in Dominica and St. Lucia. All diseases associated with early infancy deaths have shown very significant declines. There have been declines in the number of deaths due to diseases of the respiratory and digestive systems. There have been increases or no change in the number of deaths due to neoplasms, diabetes, hypertension, heart, liver, and cerebrovascular diseases. In general, deaths due to degenerative diseases are on the increase and those from all other causes on the decrease.

Life expectancy at birth has been on the increase in Dominica and St. Lucia in response to improved mortality conditions. In 1950 life expectancy at birth was around 50 years; it was perhaps less than 60 in 1960; less than 65 by 1970; and approximately 70 years in 1980. Life expectancy in Dominica should currently exceed that of St. Lucia. Best estimates have that of Dominica at around 72 in 1982 and St. Lucia's about 71.

The probability of surviving the first year of life in Dominica is very good and slightly superior to that in St. Lucia. Dominica's mortality rates are currently at such low levels (assuming that they are the true rates) that improvements realistically cannot be expected. In fact an aging population due to low fertility is developing, and even though infant mortality will remain low, the crude death rate may increase as is the case in the developed societies. St. Lucia's stabilizing relatively higher rate of infant mortality has the capacity for further

declines. This is dependent on improvements in the quality of life as manifested in such areas as improved levels of education for mothers, better nutritional levels for mother and baby, and better maternal and child care.

6.4 FERTILITY

Fertility has declined considerably in Dominica and St. Lucia and currently the crude birth rates are quite low. The 1984 World Population Data Sheet of the Population Reference Bureau gave Dominica's crude birth rate as 22 and St. Lucia's as 33. The latest figures provided by government agencies are 23 for Dominica for 1982 and 31 for St. Lucia for 1983 and 33 in 1982. This 10 per-thousand difference between St. Lucia and Dominica is quite startling when one considers the relative socio-economic conditions of the two countries. We suspect that differential levels of net migration loss is playing an important role in this phenomenon, but again we should question the validity of the data.

Dominica and St. Lucia experienced increases in the crude birth rates between 1950 and 1960 and a tendency towards stability for Dominica for the period 1960-65 and for St. Lucia for the period 1960-70. Overall, Dominica had a steady decline in its crude birth rate from 1965 to 1975. Since 1975 there is a stronq tendency to stabilize at around 22. Between 1971 and 1983 St. Lucia's crude birth rate declined erratically with stabilizing tendencies at different levels. Since 1980 St. Lucia's crude birth rate is showing a tendency to stabilize in the low 30's.

Dominica's decline in the crude birth rate over the period 1950 to 1982 has been greater than that of St. Lucia (35 percent vs 13 percent). The initial increases in the crude birth rates were closer: Dominica 31 percent and St. Lucia 27 per cent. The decline in the crude birth rates between 1960 and 1982 was greater in Dominica than St. Lucia (50% vs 31%).

During the period 1950 to 1962 the crude birth rate in Dominica was higher than that of St. Lucia and between 1962 and 1982, and up to the present as well, St. Lucia's rate is higher than Dominica's. The turnaround in the crude birth rate occurred in 1962-63. In 1950 the crude birth rates of the two islands were approximately the same and by 1980 St. Lucia was 6 per thousand greater than Dominica. The

1984 World Data Sheet shows St. Lucia's crude birth rate as 11 per thousand higher than that of Dominica and the most recent government sources show them as, 10 per thousand in St. Lucia's favour in 1982.

Age specific fertility rates increased among the younger age cohorts of the childbearing ages between 1960 and 1970 but declined among the older cohorts. Overall there was declining age specific fertility between 1970 and 1980/1. The pattern of declines are somewhat similar for both countries.

The age specific fertility rates for women younger than 35 years were higher in St. Lucia than Dominica in 1960 and 1970 but in 1980 Dominica's rates are higher than those of St. Lucia. Among the age cohorts 35-49 in 1960 and 1970 the age specific fertility rates in St. Lucia were lower than in Dominica but in 1980 Dominica's was lower.

The total fertility rate in 1960 and 1970 are higher in St. Lucia than in Dominica but in 1980 Dominica's rate is the higher of the two.

Age specific fertility rates are highest for the age cohorts 20-24 and 25-29. Childbearing is primarily confined to the age group 15-39. The 15-19 age cohort has higher fertility than the ones above 39 years of age.

Education and age-specific fertility are negatively associated as would be expected in the two societies.

Visiting unions have the highest age specific fertility rates followed by common law and married in that order, but the visiting union figures should be discarded because of errors in classification.

The gross reproduction rate, the general fertility rate and the total fertility rate all give support to the conclusion based on the crude birth rate of a general and overall decline of significant proportions between 1960 and 1980. They do show Dominica and St. Lucia as being closer in current levels and rates of decline of fertility. However, the calculation of these rates are more prone to errors which may mask some of the differences. Moreover these rates are available for only a few points in time.

The average number of live births to women in Dominica in 1970 is greater than in St. Lucia for each age group. Completed fertility is high in both St. Lucia and

Dominica in 1970 but higher for Dominica than St. Lucia. By 1980/1 women under age 40 in Dominica have had fewer live births than their St. Lucia counterparts. Among women 40 years and over the differences between respective age cohorts in the number of children ever born are quite small and tending in Dominica's favour. The turn-around has developed as seen by the use of children ever born and it is being effected by the younger age cohorts.

With children ever born (cumulative number of live births to date) as the measure of fertility, we find that education and fertility are negatively associated. However, it requires at least six years of schooling before a very definite and significant difference is seen. Women with six or more years of education have smaller numbers of live births than women with lower levels of education. Giving all women at least six years of education would likely impact negatively on fertility.

Up until 1970 the numbers of children ever born for the different educational groups were higher in Dominica than in St. Lucia. However, by 1980/1 the younger Dominican women and those with less than primary education have had lower numbers of live births than their St. Lucian counterparts.

The differences among the three union types for women under age 35 in terms of the number of live births are very small in 1970 and 1980/1. For those women who have completed their childbearing, those in married unions have the highest number of live births in 1970 and 1980/1. Married women either have higher fertility or women with high fertility are more likely to get married at least by age 45 and older. Both possibilities are likely to be behind the differential fertility by union type.

Women who worked have significantly less live births than those who stayed at home during the 12 months preceding the censuses. The difference between the two groups ranges between 1 and 1.5 live births. Women who were outside the labour force have more live births than those who were seeking jobs. Female labour force participation is associated with the number of live births. Greater involvement of women in the workforce will depress fertility. However, high unemployment levels are a feature of St. Lucia and Dominica. Over the period 1970 to 1980/1 female participation in the labour force has declined.

In Dominica the small Amerindian population have the highest level of fertility. The Blacks and Mixed have approximately the same number of children ever born in Dominica. In St. Lucia, women in the childbearing ages of the three main racial groups -- Blacks, Mixed and East Indians -- have approximately the same average number of live births. Among St. Lucian women who have completed their childbearing the East Indians have had more live births than the Blacks and Mixed who are close to each other.

It would appear that young Blacks are playing a major role in the turnaround in fertility that has occurred between St. Lucia and Dominica. Sociocultural differences associated with race would seem to make an impact on reproductive behaviour.

6.5 TEENAGE FERTILITY

In Dominica in the latter part of the 1970-80 decade teenage fertility accounted for between 27 and 35 percents of all births and in St. Lucia it was about 27 percent. There seem to have been an increase in teenage fertility between 1970 and 1980/1. Overall it would seem that teenage pregnancies are higher in Dominica than in St. Lucia. In both societies the rates are quite high.

Delaying pregnancy beyond the teenage years would depress at least the period fertility rates. Delay of pregnancy and childbearing allow for the completion of ones' education and increases the likelihood of labour force participation and therefore will depress completed fertility as well. Delaying pregnancy beyond the teenage years will impact on infant mortality, since children born to teenage mothers have relatively high probabilities of dying in infancy. Reducing teenage pregnancy and teenage fertility will reduce fertility and likely enhance the quality of life for mothers and children.

6.6 HIGH PARITY

In Dominica and St. Lucia large numbers of women have seven or more live births. There is no sign that high parity is declining in these two societies. The tendency is toward an increase in the proportion of women having seven or more live births.

Reducing high order births will depress fertility considerably in St. Lucia and Dominica. With low and declining infant mortality and widespread contraceptive use, a decline in high order births is expected. Women currently in the childbearing ages are unlikely to have such high proportions of high order births as now exist among those who have completed childbearing. Reducing the number of high order births will also lead to reductions in infant mortality.

6.7 CHILDLESSNESS

Childlessness decreased in all age groups between 1970 and 1980/1 but the levels are still relatively high. The percentage childless in 1970 ranged between 14.4 and 17.5 for Dominica and in 1981 the range was 7.8 to 15.9 percent. In St. Lucia in 1970 the percentage childless ranged between 14.6 and 19.3 and in 1980 between 9.9 and 17.2.

A substantial proportion of the childless women is accounted for by those who were never in a union and the remainder by infertile women.

Childlessness is greater in St. Lucia than in Dominica. The decline in childlessness in the two societies have not changed their relative positions. The decline in childlessness must have impacted positively on fertility but was most likely compensated for in other developments and hence the overall declining fertility situation occurred.

6.8 NEVER IN A UNION AND NEVER MARRIED

Sizeable proportions of women in Dominica and St. Lucia had never been in a sexual union. In 1981 in Dominica 14 to 20 percents of the women in the five year age cohorts 45 and over have never been in a sexual union. In St. Lucia in 1980 the corresponding percents were 12 to 18. These figures suggest that a substantial capacity exists for an increase in fertility through a reduction in the proportions never in a union while they are passing through the childbearing ages. This difference in the proportion of women who had never been in a sexual union between St. Lucia and Dominica is a possible factor in their differences in fertility.

There is no pattern of increase or decrease in Dominica between 1960 and 1981. In St. Lucia between 1970 and 1980, the proportion never in a union increases for the 20-34 age groups but decreases in all other age groups. The singulate mean age at union formation is approximately 22.5 years for Dominica and St. Lucia in 1980/1.

The percentage of the female population never married is high in Dominica and St. Lucia. At age 65 and above, close to 30 percent of the Dominican women, and over 30 percent of the St. Lucian women have never been married. The proportion never married does not have a clear implication for fertility since a major part of childbearing takes place in non-legal unions. The average age at which women marry in Dominica and St. Lucia is quite high and much higher than that at which they enter their first union.

6.9 AGE AT FIRST AND LAST BIRTHS

The average age at first birth declined between 1970 and 1980 in St. Lucia for women 35-64 years of age. In Dominica's case there was a decline for the 35-49 age group and for the 60-64 between 1970 and 1981. However, the declines in the average age at first birth have been small and the effects on fertility cancelled out by other factors. The average age at first birth is approximately equal in Dominica and St. Lucia and ranges between 21 and 23 years. These are relatively high average ages. The sizeable teenage fertility is compensated for by significant numbers of women delaying childbearing into the late 20's.

The average age at the birth of the last child declined between 1970 and 1980/1 for the women in the age group 35-49 and increased for those 50-64. The average age at the birth of the last child is approximately the same for Dominica and St. Lucia and ranges between 35 and 37 years.

The average number of years between the first and last births is almost the same in St. Lucia and Dominica and falls between 12 and 15 years.

It would appear that at the aggregate level, differences in the age at the birth of the first and last children are not a major contributory factor to the differential fertility levels that have been evidenced between the two societies.

Childbearing is confined to a relatively short span of time and therefore effective spacing of births in that period could be instrumental in reducing fertility levels. Contracting the time span for childbearing by increasing the age at the first birth and/or decreasing the age at the last birth should all other things being equal depress fertility.

6.10 ILLEGITIMACY

The percentage of all births born outside of married unions is very high in Dominica and St. Lucia but not out of line with that of the English-speaking Caribbean. About 2/3 of all births in Dominica occur to women in either a common-law or visiting union and in St. Lucia the proportion is around 7/10. There are variations in the proportions from year to year and it is likely that the level of illegitimacy is quite similar in the two societies. The proportion of illegitimate births declines with the age and parity of the mothers.

The rates of illegitimacy are high in Dominica and St. Lucia and they have been high for a long time. There is no indication that the rates are declining. The implication of illegitimacy for fertility is studied through the family patterns and union types. There have been conclusions drawn that reducing illegitimacy will increase fertility, since marital unions are associated with higher numbers of live births. However, this latter conclusion is not universally true and even if it were, there are indications that the relationship between fertility and union types is in flux under the condition of ensuing socio-cultural changes.

Remembering that by age 45 the majority of all women are married and that a very large proportion of all women spend their mated life with a single individual, one can conclude that even though a child may be born outside of the legal union, there is a good probability that the parents will eventually marry. Illegitimacy does not present a child with very many disadvantages, if any, in these societies.

6.11 FAMILY PLANNING

Contraceptive use is higher in Dominica than in St. Lucia. Greater percentages of women in Dominica are current users of contraception than in St. Lucia. Current

contraceptive use increases with age but even among young women contraceptive use is quite high.

The oral contraceptive pill is the most popular contraceptive method in the two countries. Female sterilization is second to the pill. The injection and the condom are more popular than the IUD. Women in Dominica and St. Lucia are for the most part using the efficient contraceptive methods but those in Dominica are more likely to be doing so than those in St. Lucia.

Women in the middle childbearing years seem to prefer the oral contraceptive pill while the injection and female sterilization are more popular among older higher parity women. The condom has small amounts of use across all age groups.

Dropout rates from the condom and pill are very high and in line with those recorded elsewhere. The dropout rates for the injection are small but are perhaps a function of the recency of its introduction as a contraceptive method. The pill has higher dropout rates in Dominica than in St. Lucia but the reverse is true for the injection. The dropout rates for the condom are quite similar in both societies.

Dominica's greater contraceptive use and its greater use of the most effective methods are likely important factors in explaining its lower fertility at present in comparison with St. Lucia.

Over 90 percent of the women in Dominica and St. Lucia know of at least one contraceptive method. Knowledge of the pill is widespread and is higher in St. Lucia than in Dominica. It is the best known contraceptive method in both societies. The injection is well known but more so in St. Lucia than in Dominica. Other well known methods are the condom, female sterilization and the IUD. Male sterilization (vasectomy) is seldom mentioned by respondents. Its use is almost nonexistent and it is not likely to gain in popularity in the foreseeable future. As expected, contraceptive knowledge and use are correlated.

The 15-19 age group is the least knowledgeable of the different contraceptive methods except the condom. The pill and injection are the best known among women 20-34 years of age. Female sterilization is best known among the older age cohorts.

Knowledge of contraceptive methods is widespread but the depth of this knowledge has not been well assessed. However, there is little doubt that much is still

unknown to the women in respect of the different contraceptive methods. In depth knowledge of the available contraceptive methods will assist the women in making informed decisions and choices. This is likely to increase satisfaction with the chosen method and possible reduce method dropout. Dissatisfaction with a contraceptive method heightens not only the likelihood of dropping out from that method but also the possibility of dropping out from contraceptive practice. Programmes aimed at providing information on contraceptive methods could also have payoffs in terms of motivating greater response to the family planning programme.

6.12 CONCLUSIONS

Dominica and St. Lucia are well on the way in the demographic transition process. Currently Dominica is ahead of St. Lucia. Dominica has a smaller population than St. Lucia. Dominica's birth rate is lower than that of St. Lucia, Dominica also seems to have lower death and infant mortality rates. St. Lucia's population is increasing faster than that of Dominica. Both societies have experienced significant net migration losses. The net migration losses have held down the rate of growth and unemployment and have likely depressed the crude birth rates as well.

The economic situations in these two countries, as is the case with most developing countries, are quite constrained. Unemployment is high, growth is sluggish and the standard of living is low. The quality of life has not been making the desired and planned for gains. The slowing rate of population growth has assisted the forward drive for economic wellbeing or at least it has helped to prevent it from going too rapidly into decline. Assuming Dominica's better demographic situation is real, we can expect it to gain economically on St. Lucia in spite of St. Lucia's apparent better economic prospects.

The St. Lucian demographic situation calls for renewed efforts aimed at reducing infant and general mortality, fertility and the rate of natural increase. In Dominica's case we cannot anticipate any further mortality reduction or increase in the near future. These levels are as low as we expect them to be and the age structure is not conducive to further declines in the near future. However, fertil-

ity has the capacity for further declines. Further fertility declines down to about 15 per thousand in the crude birth rate would reduce the rate of natural increase to about one percent and with some net migration losses would give rise to a lower rate of growth. Moreover, with Dominica's age composition it is possible for fertility to increase even though individual family size may continue its decline. Therefore, Dominica must be vigilant and renew its efforts in the direction of achieving continued fertility declines if an upturn is to be avoided.

Population growth rates of less than or even equal to one percent per year can be a factor in promoting economic growth and wellbeing. This, however, will not be achieved in the near future without expenditures of time and money on programmes aimed at demographic, economic, and social changes. The family planning programmes in Dominica and St. Lucia seem to have achieved a measure of success. Revitalization of these programmes would likely have payoffs for the economic and social development of the countries. The programmes are likely to have low cost/benefit ratios. Much can be gained for small amounts of expenditure. Any programme that leads to improvements in the standard of living will affect fertility at least indirectly. These programmes may provide opportunities and motivation for social mobility and a desire for reduced childbearing. The expanding of educational opportunities as well as employment for women will depress fertility. Improving the status of women will also negatively impact on fertility. Improvements in the quality of life will in the intermediate and long run impact negatively on fertility. However, this is becoming increasingly difficult to achieve. On the other hand investments in family planning programmes seem to have more immediate effects. The choice is not one of investments in development vs family planning. Both are desirable, complementary and possible and should be pursued. Both are being pursued in Dominica and St. Lucia, but more attention could be given to the family planning effort. It seems to be a wise course of action to take.

Taking demographic factors into consideration in socio-economic planning makes good sense. This however, should be conditioned upon the availability of reliable and valid demographic data and measures. This study has led to the conclusion that demographic data for Dominica are lacking in many respects. St. Lucia's data

availability is better, but there are unanswered questions with respect to reliability and validity. An evaluation of the vital registration systems in the two countries is called for at this time. The greater coverage of demographic data and timely publication of them are warranted in the case of Dominica but even in St. Lucia's case also. Better and more informative migration figures are required. In spite of the availability of census data and the recent CPS studies, a proper demographic survey of the WFS type, but including mortality and migration, is warranted for each country. A good and thorough evaluation of the census coverage and data should be undertaken. One should have confidence in one's data especially when they are being used as inputs to the planning process. At present it is my evaluation that such confidence does not exist with respect to demographic data and if it does exist, it is unwarranted.

With great patience, lots of time, and some skill, it is possible to assess the demographic situation of the micro states and LDC's in the Caribbean. However, the available data are insufficient for a thorough and comprehensive study. There are great variations from country to country in data availability and quality. What has been accomplished in this study of Dominica and St. Lucia should be more or less possible for any of the less developed countries of the Caribbean. However it is impossible to do a complete analysis in the present context due to data unavailability as well as poor quality.

Research is called for in order to explain Dominica's present demographic situation relative to that of St. Lucia. A study of this kind could be more extensive by including other countries at different levels of development. Barbados demographic rates are the lowest of the English-speaking Caribbean countries and it has the best quality of life. St. Lucia's fertility is the highest but it is likely not the worst off economically. A great deal could be learned about the dynamics of the interdependencies between demographic and socio-economic variables within these Caribbean societies. They are small enough to make it possible and their diversity could provide the appropriate conditions.

The problems of population in Dominica and St. Lucia are ones related to the physical distribution of the population (mainly along the coasts); the age

composition (a young population with great potential for present and future growth); a large and growing labour force and a stable or contracting job market; too rapid a growth in the population relative to growth in, or capacity for growth in, the economy; slowing down of emigration and hence removal of a past safety valve; too high fertility levels (more so in St. Lucia than Dominica); too high an infant mortality rate and a crude death rate in St. Lucia; too high a teenage fertility; and too many women of high parities (too many births of high orders).

Solution to these problems will require imaginative planning and utilization of available resources. Inappropriate models of development could further aggravate the demographic situation which in turn impedes economic advancement. The basic needs approach seems to hold possibilities for alleviating the existing conditions and may even provide a long term solution.

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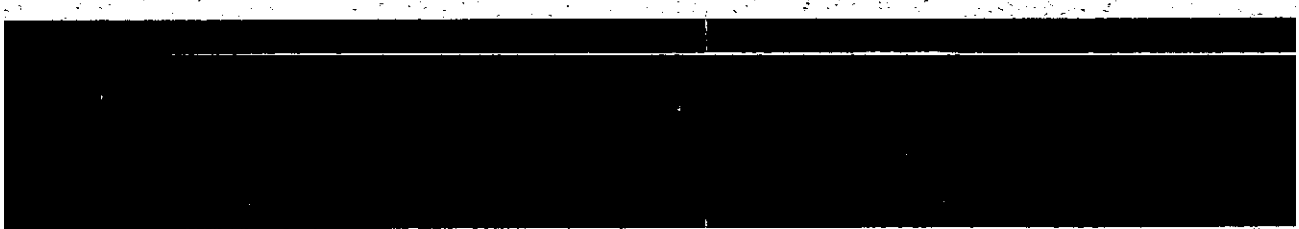

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Santiago, Chile